X350 and X550
Desktop Virtualization Kits
with vSpace™

User Guide

This guide applies to both Windows Server 2003 R2 SP2 and Server 2008 R1 SP2. Except for the vSpace Version numbers at the top of the installer window frames, the installation screens are generally identical for both products. Unless specifically noted, all screen shots shown were captured from a Windows Server 2008 installation.

www.ncomputing.com

Important Notices

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Refer to the Limited Hardware Warranty applicable to your region for information on what is and what is not covered by the warranty, your responsibilities, exclusions, and how to obtain service. It is your responsibility to download a copy of the warranty at the time of purchase to keep for your records. The warranty can be downloaded from the "Download center" in the support section of the NComputing website.

Please refer to the End User License Agreement (EULA) and Terms of Use (TOU) that are presented for your review during the software installation process. The information contained in these documents is very important. The EULA and TOU constitute agreements between you and NComputing and are accepted by you by installing and using the product. It is your responsibility to print a copy of the EULA and TOU directly from the installer in order to keep for your records.

This product gives users shared access to computer resources. It is not a computer, and may not support all software applications, especially high-resolution graphics applications or 3D games that are designed to be supported by stand-alone computers. Similarly, it may not support all hardware peripherals that are designed to be supported by stand-alone computers.

Refer to your computer operating system and application software vendors' license agreements for information on using these products with NComputing systems. Additional software licenses may be required.

Microsoft Windows Licenses. You are licensed by NComputing to use the vSpace software under the terms of the EULA. You must also acquire the appropriate number of Windows Server licenses and Client Access Licenses for each device or user accessing Windows Server software. You cannot use the vSpace software with Windows Client software (i.e., Windows Vista, Windows 7) unless a single user and no other user accesses the same Windows Client software at any one time, or you are authorized to do so under an applicable license from Microsoft or as expressly set forth in the "Microsoft Windows Server to Windows XP License Rights" section of the NComputing EULA. In all cases, your rights and obligations with respect to the use of vSpace software with Windows Server software and Windows Client software are defined by both the NComputing vSpace software EULA and the applicable Microsoft Software License Agreement or EULA. For more information on licensing with Microsoft operating systems see: www.ncomputing.com/mslicensing

The NComputing hardware and software products described in this user manual are protected by numerous granted and pending U.S. and international patents.

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Safety Information

Refer to the following to prevent any physical injury or loss of assets caused by damage to the product.

A user must read this User Guide carefully before use and properly follow the instructions.

- Make sure that the place of installation is not too hot (above 35˚C), too cold (below 0˚C), or too wet (above 85% relative humidity).
- Avoid any severe impacts to the product
- Make sure that the product is not exposed to direct sunlight or any hot machinery.
- Please keep the product away from any items which have strong magnetic properties.
- Do not disassemble, repair or rebuild the product.
- Please properly route all cables and power cords to avoid a tripping hazard. An electric shock, fire, damage to the product or physical injury may occur as a result of tripping over the cable.
- Please disconnect the Cat 5e or Cat 6 cable from the product when it is not in use for a long period of time.

Regulatory Compliance

FCC Information

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment to a power outlet on a circuit different from which the receiver is connected
- Consult your dealer or an experienced radio TV technician for help

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. For enhancing performance and reliability, we recommend using FTP or STP cable between the X350 or X550 PCI card and the XD2 devices.

This device complies with part 15 of the FCC Rules.
Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

MIC Certification Information

X350 PCI Card

NCC-X350(B)

1.기기의명칭(모델명): NComputing X-series (X350)

2.인증받은 자의 상호: 엔컴퓨팅 주식회사

3.제조자/제조국가: 엔컴퓨팅 주식회사/한국

4.제조년월: 제품 참조

X550 PCI Card

NCC-X550(B)

1.기기의명칭(모델명): NComputing X-series (X550)

2.인증받은 자의 상호: 엔컴퓨팅 주식회사

3.제조자/제조국가: 엔컴퓨팅 주식회사/한국

4.제조년월: 제품 참조

XD2 Access Device

NCC-XD2(B)

1.기기의명칭(모델명): NComputing X-series (XD2)

2.인증받은 자의 상호: 엔컴퓨팅 주식회사

3.제조자/제조국가: 아이온/중국

4.제조년월: 제품 참조

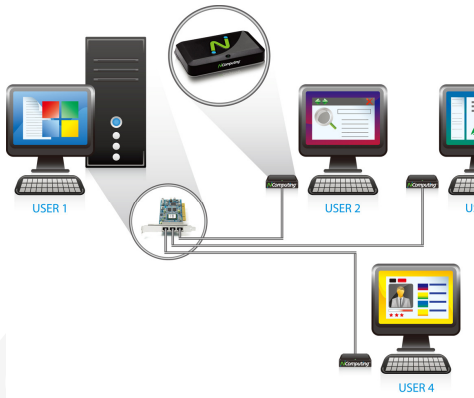
이 기기는 가정용(B 급)으로 전자파적합 등록을 한 기기로서 주로 가정에서 사용 하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

제품의 성능 및 신뢰성 향상을 위하여 X350/X550 PCI Card 와 XD2 Access Device 의 연결 시 FTP 혹은 STP Cable 의 사용을 권장 합니다.

Product Overview

- The X550 desktop virtualization kit includes a license for NComputing vSpace software, one full-height X550 PCI card, and five (5) XD2 access devices.
- The X350 desktop virtualization kit includes a license for NComputing vSpace software, one low-profile X350 PCI card, and three (3) XD2 access devices.

NComputing vSpace desktop virtualization software divides your host PC's resources into independent virtual workspaces that give each user their own full PC experience. The X-series PCI card connects your PC to each of the XD2 access devices through a standard Category 5e or shielded Category 6 cable (sold separately). Each XD2 connects to a user's keyboard, monitor, mouse and speakers. All these components work together to efficiently harness the excess computing capacity of your PC so multiple users can share it at the same time.



One X350 Kit Enables Four Users to Share a PC (Seven with Two Kits)

One X550 Kit Enables Six Users to Share a PC (Eleven with Two Kits)

One X550 kit adds five users to a PC, and an X350 kit adds three users to a PC. Including the first user that works directly on the PC, this means that:

- Six users can share a single PC with one X550 kit. With two X550 kits, you can add ten users to a PC for a total of eleven users sharing one PC.
- Four users can share a single PC with one X350 kit. With two X350 kits, you can add six users to a PC for a total of seven users sharing one PC.

Minimum System Requirements

Host Computer

For multiuser applications the host computer operating system can be Windows Server 2003 R2 SP2 (Standard or Enterprise Edition, 32-bit), Windows Server 2008 SP2 (Standard or Enterprise, 32-bit), or Ubuntu Linux.

Microsoft Windows Licenses. You are licensed by NComputing to use the vSpace software under the terms of the End-User License Agreement (EULA). You must also acquire the appropriate number of Windows Server licenses and Client Access Licenses for each device or user accessing Windows Server software. You cannot use the vSpace software with Windows Client software (i.e., Windows Vista, Windows 7) unless a single user and no other user accesses the same Windows Client software at any one time, or you are authorized to do so under an applicable license from Microsoft or as expressly set forth in the "Microsoft Windows Server to Windows XP License Rights" section of the NComputing EULA.[1] In all cases, your rights and obligations with respect to the use of vSpace software with Windows Server software and Windows Client software are defined by both the NComputing vSpace software EULA and the applicable Microsoft Software License Agreement or EULA. For more information on licensing with Microsoft operating systems see: www.ncomputing.com/mslicensing

Each X550 PCI card requires a free full-height PCI slot, while each X350 requires either a free full-height or half-height PCI slot.

For a single X-series kit (X350 or X550 with 2 to 6 users), a host PC should have a minimum of a 2.4 GHz processor or any dual-core processor and 1 GB RAM.

For a dual card installation (two X350 or two X550 ktis with 7 to 11 users), a host PC should have a minimum of a 3.0 GHz processor or an equivalent dual-core processor and 2 to 3 GB RAM.

Access Devices

For each XD2 access device you will need:

- PS/2 keyboard and PS/2 mouse
- Monitor (supporting 800x600, 1024x768, 1280x720, 1280x800, 1280x1024, 1360x768, or 1440x900 resolution)
- A Category 5e cable for lengths up to 5 meters or a shielded (STP or FTP) Category 6 cable for lengths between 5 and 10 meters
- Optional: speakers or headphones
- Optional: USB devices and USB cables (connect directly to host PC and can be assigned to each station via the vSpace software)

[1] Microsoft Windows Server to Windows XP License Rights. If you have licensed the appropriate number of Windows Server operating system and associated Client Access Licenses for simultaneous access by multiple users to the host computer, you may install and run vSpace on a separately licensed Windows XP operating system for simultaneous access by multiple users in lieu of the Windows Server operating system. You may only install and use either the Windows Server operating system software or the Windows XP Client operating system software but not both. Microsoft does not provide any support for vSpace or for the Windows XP operating system in this configuration; you should seek support from NComputing for issues relating to vSpace and its use with the Windows XP Client operating system.

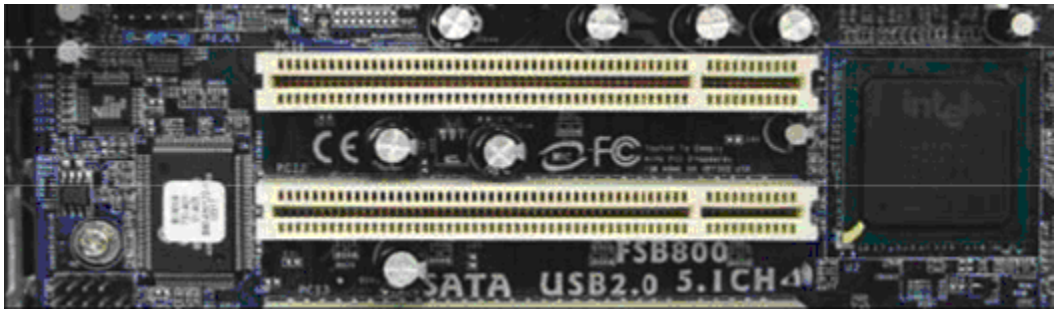
Install the Hardware

Before attempting to install the X350/X550 kit, verify that your Windows or Linux OS is supported by vSpace, and that the OS is properly installed, updated and all devices viewable in the OS device manager are working properly. Also, check to be sure your package includes one X550 (or X350) PCI card, five (or three) XD2 devices, the vSpace installation CD, and ten (or six) monitor mounting screws.

Install the X-series PCI Card

1. Disconnect all peripheral and power cables from the host PC.
2. Remove the host PC system cover.

3. Locate an available PCI slot for the X-series PCI card.



4. Insert one PCI card and secure the bracket to the chassis with a retaining screw (or other fastening mechanism specific to your PC). Note: The X550 is a full-height PCI card, and the X350 is a half-height PCI card.

Optional installation of a second PCI card (matched pairs only)

If the system has a second available PCI slot and you wish to use a second X-series kit, insert the second card into the available slot and secure the card to the chassis. Note that only matched sets of cards are supported. For example, you can use two X550 cards in a PC or two X350 cards. You cannot use both an X350 and an X550 card in the same system.

5. Replace the system cover and reconnect all peripheral and power cables.

Connect Peripheral Devices

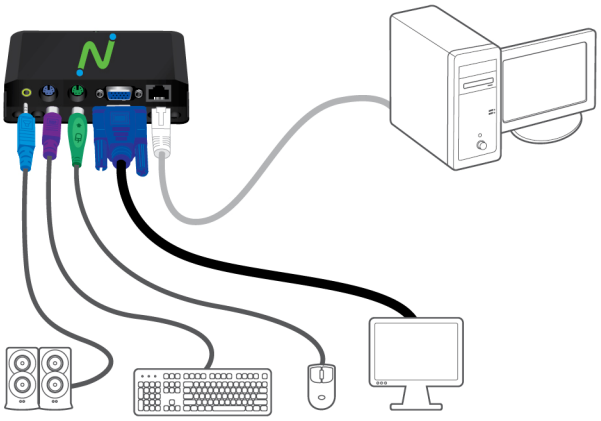
Connect each access device to a port on the PCI card using high quality Cat 5e or shielded Cat 6 cables. These must be standard direct (not crossover) cables.

Maximum cable length between the X-series card and an access device is:

Standard Category 5e UTP cable: up to 5 meters
Standard Category 6 STP or FTP cable: up to 10 meters

WARNING: You must NOT attach any Ethernet networking equipment, such as a hub, switch, or router, between the access device and the PCI card. The signals being sent from the X350/X550 PCI card to the XD2 device are NOT Ethernet.

Connect the desired peripheral devices to each XD2 access device. If you plan to use any USB devices, connect these directly to the host PC – these can then be assigned to each XD2 station with the vSpace software.



Using two screws (provided) you can attach the XD2 to the back of an LCD monitor that has VESA compliant mounting holes as shown below.

Install the NComputing vSpace Software

Reminder: This user guide applies to both Windows Server 2003 R2 SP2 and Server 2008 R1 SP2. Except for the vSpace Version numbers at the top of the install screen frames, the installation screens are identical for both products, and unless specifically noted, all screen shots shown were captured from a Windows Server 2008 installation.

Turn on the host PC. After Windows starts, it will automatically bring up a dialog box called “Found New Hardware Wizard.” (For Linux please visit the support section of the NComputing website and enter “Linux” into the knowledge base for the latest information on installation in Linux).

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Online privacy information
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

Do not install anything from Windows Update for the X350/X550 PCI card. Simply click “Cancel” on this screen.

Now insert the software installation CD into the host PC's CD drive.

If the installer does not automatically launch, go to "My Computer," open the CD drive icon, and manually start the "Install.exe" application.

At the installation screen, click on the "Install vSpace for X-series" button.

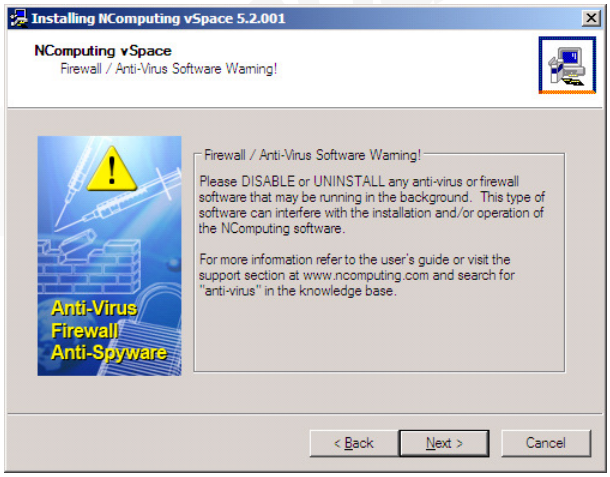
Before actual installation starts, the software attempts to connect to the Internet to compare the software version on the CD with the latest software version on the NComputing update server. If there is a later version on the NComputing server, a

prompt will appear to ask if you want to use the version on the CD or if you want to download the latest version.

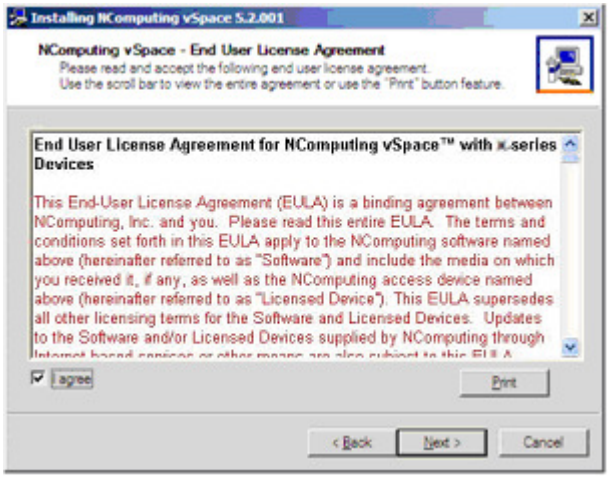
At the installation "Welcome" screen, close all running programs, and click on the "Next" button.

Installing NComputing vSpace 5.2.001
Welcome to the NComputing vSpace Setup program.
Close all programs you are running and click "Next" to continue setup or "Cancel" to quit.
vSpace™
Install
< Back
Next >
Cancel

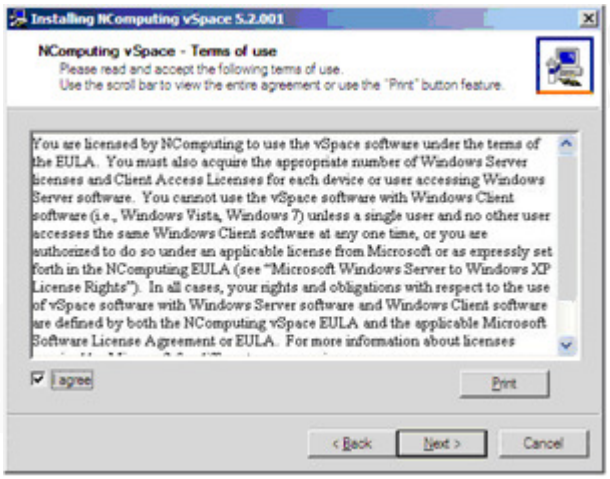
Read the antivirus and firewall warning screen, follow the applicable instructions, and click on the "Next" button. Please note that vSpace is periodically updated and the versions may differ from those depicted (e.g. from 5.2.001 to 5.2.002).


Installing NComputing vSpace 5.2.001
NComputing vSpace
Firewall / Anti-Virus Software Warning!
Anti-Virus
Firewall
Anti-Spyware
Firewall / Anti-Virus Software Warning!
Please DISABLE or UNINSTALL any anti-virus or firewall software that may be running in the background. This type of software can interfere with the installation and/or operation of the NComputing software.
For more information refer to the user's guide or visit the support section at www.ncomputing.com and search for "anti-virus" in the knowledge base.
< Back
Next >
Cancel

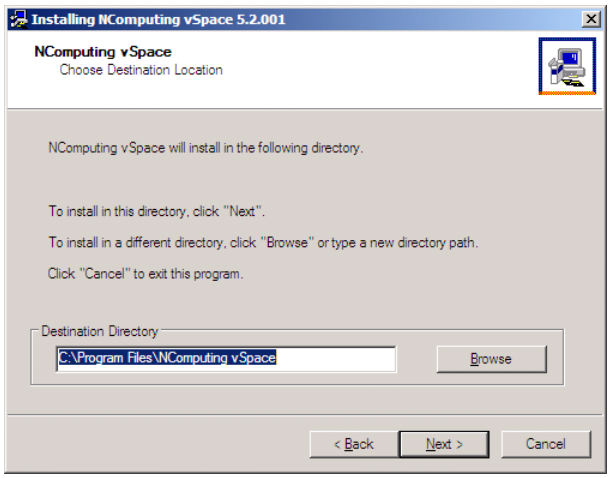
At the software license screen, read the vSpace software end user license agreement (EULA) and optionally print it out. When you are finished, click the "I agree" checkbox, and then click "Next."


Installing NComputing vSpace 5.2.001
NComputing vSpace - End User License Agreement
Please read and accept the following end user license agreement.
Use the scroll bar to view the entire agreement or use the "Print" button feature.
End User License Agreement for NComputing vSpace™ with x.series Devices
This End-User License Agreement (EULA) is a binding agreement between NComputing, Inc. and you. Please read this entire EULA. The terms and conditions set forth in this EULA apply to the NComputing software named above (hereinafter referred to as "Software") and include the media on which you received it, if any, as well as the NComputing access device named above (hereinafter referred to as "Licensed Device"). This EULA supersedes all other licensing terms for the Software and Licensed Devices. Updates to the Software and/or Licensed Devices supplied by NComputing through
I agree
Print
< Back
Next >
Cancel

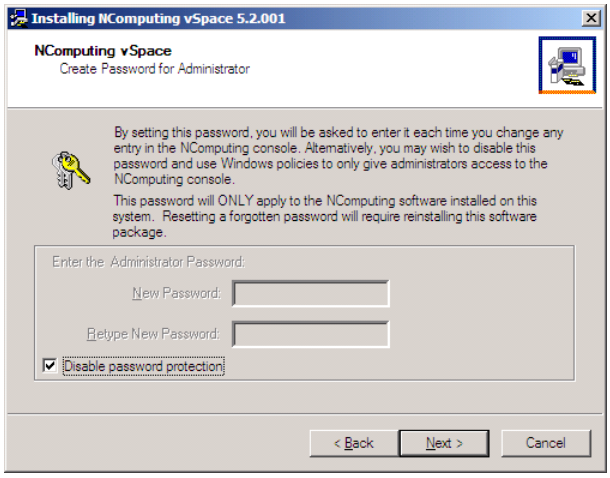
At the product terms of use screen, read the terms of use document and optionally print it out. When you are finished, click the "I agree" checkbox, and then click "Next."


Installing NComputing vSpace 5.2.001
NComputing vSpace - Terms of use
Please read and accept the following terms of use.
Use the scroll bar to view the entire agreement or use the "Print" button feature.
You are licensed by NComputing to use the vSpace software under the terms of the EULA. You must also acquire the appropriate number of Windows Server licenses and Client Access Licenses for each device or user accessing Windows Server software. You cannot use the vSpace software with Windows Client software (i.e., Windows Vista, Windows 7) unless a single user and no other user accesses the same Windows Client software at any one time, or you are authorized to do so under an applicable license from Microsoft or as expressly set forth in the NComputing EULA (see "Microsoft Windows Server to Windows XP License Rights"). In all cases, your rights and obligations with respect to the use of vSpace software with Windows Server software and Windows Client software are defined by both the NComputing vSpace EULA and the applicable Microsoft Software License Agreement or EULA. For more information about licenses
I agree
Print
< Back
Next >
Cancel

From the "Choose Destination Location" screen, you can choose to install vSpace in the default location, or you can navigate to a different location and install vSpace there. When you are finished, click on the "Next" button.


Installing NComputing vSpace 5.2.001
NComputing vSpace
Choose Destination Location
NComputing vSpace will install in the following directory.
To install in this directory, click "Next".
To install in a different directory, click "Browse" or type a new directory path.
Click "Cancel" to exit this program.
Destination Directory
C:\Program Files\NComputing vSpace
Browse
< Back
Next >
Cancel

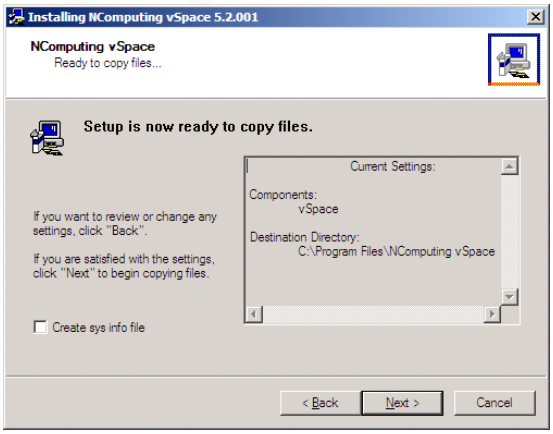
At the "Create Password for Administrator" screen, select whether to use or disable use of an administrator password. If you choose to use an administrator password, enter it and retype it. Click on the "Next" button.


Installing NComputing vSpace 5.2.001
NComputing vSpace
Create Password for Administrator
By setting this password, you will be asked to enter it each time you change any entry in the NComputing console. Alternatively, you may wish to disable this password and use Windows policies to only give administrators access to the NComputing console.
This password will ONLY apply to the NComputing software installed on this system. Resetting a forgotten password will require reinstalling this software package.
Enter the Administrator Password:
New Password:
Retype New Password:
Disable password protection
< Back
Next >
Cancel

Note: This password only applies to the vSpace software installed on this PC. Resetting a forgotten password will require uninstalling and reinstalling the vSpace software. Therefore, the system administrator needs to manage this password carefully.

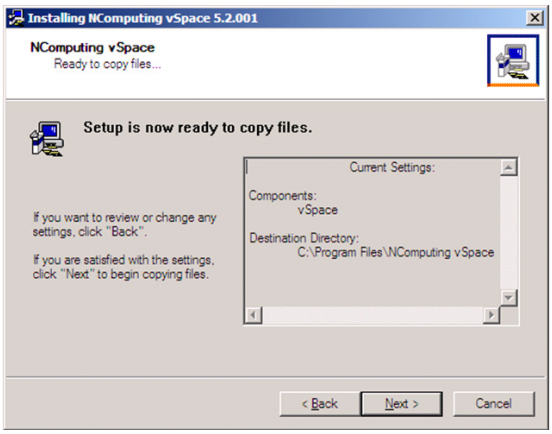
Note: The NComputing Administration Console allows you to administer vSpace software and parameters associated with the access devices on this PC. It will automatically be installed on this system.

At this point, one of the following "ready to copy files" screens will be displayed. If this is the first time vSpace has been installed on this system, the "Create sys info file" check box will appear on the screen. Unless it is requested by support, we recommend you leave the box unchecked. Review your selections and click on the "Next" button.


Installing NComputing vSpace 5.2.001
NComputing vSpace
Ready to copy files...
Setup is now ready to copy files.
Current Settings:
Components:
vSpace
Destination Directory:
C:\Program Files\NComputing vSpace
If you want to review or change any settings, click "Back".
If you are satisfied with the settings, click "Next" to begin copying files.
Create sys info file
< Back
Next >
Cancel

First time install screen

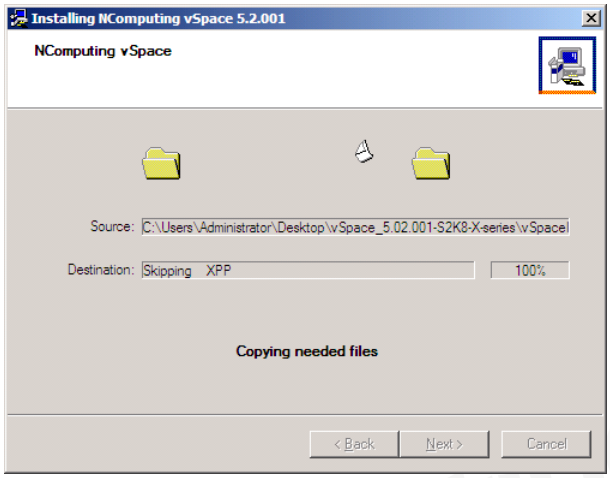
OR


Installing NComputing vSpace 5.2.001
NComputing vSpace
Ready to copy files...
Setup is now ready to copy files.
Current Settings:
Components:
vSpace
Destination Directory:
C:\Program Files\NComputing vSpace
If you want to review or change any settings, click "Back".
If you are satisfied with the settings, click "Next" to begin copying files.
< Back
Next >
Cancel

Screen if vSpace has previously been instaled

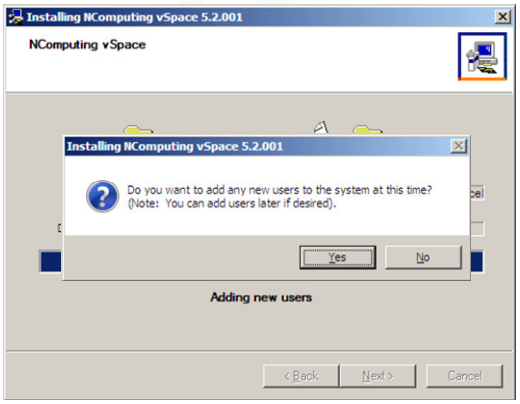
The vSpace software will then be installed.

Note: "Create sys info file" enables the Windows utility to create a system information file and place it in your My Documents folder. This process will create a record of your system's configuration but it may take some time to create.

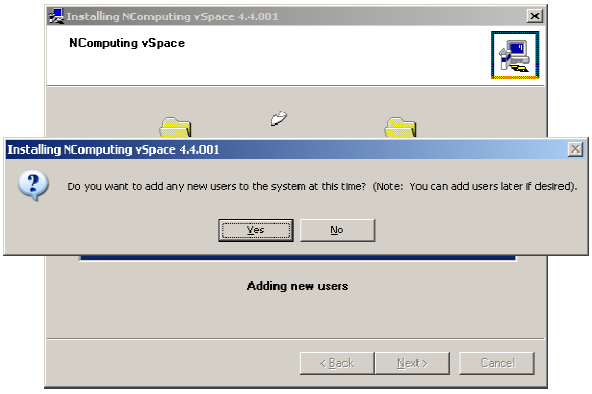


At the "Add new users" pop-up, select whether or not you would like to add new users to the system. If you click on the "Yes" button, the installation program will launch a screen to administer user accounts on the host PC. If you click the "No" button, the installation process will continue without bringing up the user administration screen.

If you choose to add or set up new User Accounts later, you can do so by going to Start→Settings→Control Panel→User Accounts. You can also search on "To add a new user to the computer" in the Windows Help and Support Center for more information.


Installing NComputing vSpace 5.2.001
NComputing vSpace
Installing NComputing vSpace 5.2.001
Do you want to add any new users to the system at this time?
(Note: You can add users later if desired).
Yes
No
Adding new users
< Back
Next >
Cancel

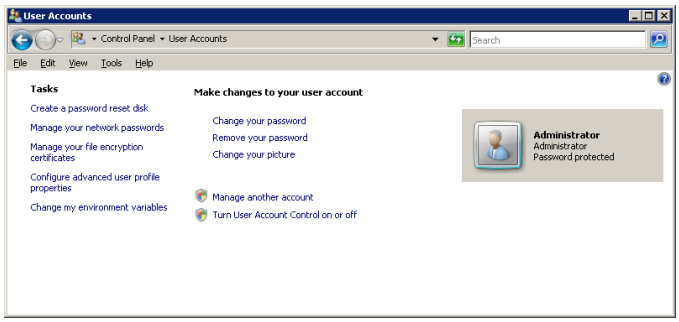
Windows Server 2008 install screen


Installing NComputing vSpace 4.4.001
NComputing vSpace
Installing NComputing vSpace 4.4.001
Do you want to add any new users to the system at this time? (Note: You can add users later if desired).
Yes
No
Adding new users
< Back
Next >
Cancel

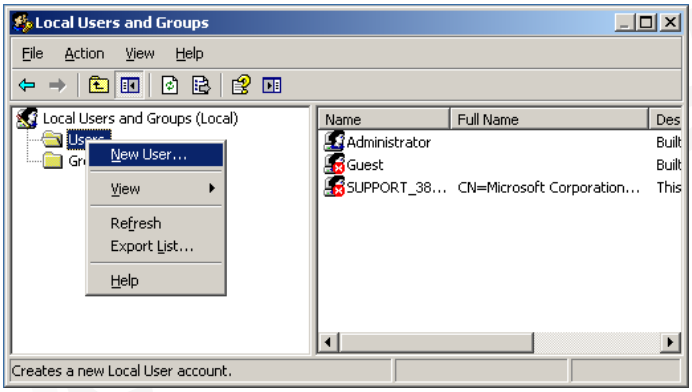
Windows Server 2003 install screen

Note: It is recommended that all users have their own user accounts to enable control of their own settings. If you click on the "Yes" button, the "Local Users and Groups" Windows utility (screen shot shown below) will be displayed on an otherwise blank overlay screen. You can right click and select "New User…" to add each desired

individual user account. When you are finished adding users, close the “Local Users and Groups” utility and you will be brought back to finish the vSpace installation process.

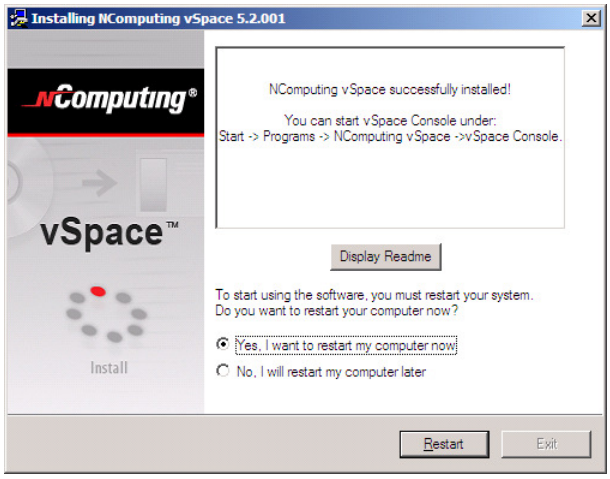


Windows Server 2008 user account management screen



Windows Server 2003 user account management screen

At the "vSpace successfully installed" screen, you have the opportunity to display and read/print the latest “readme” file. This file normally contains notes specific to the version of vSpace you have just installed. Then select whether or not to immediately restart the computer.

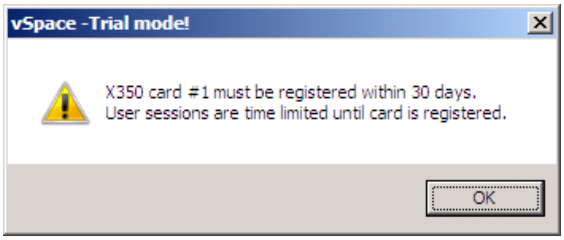

Installing NComputing vSpace 5.2.001
NComputing
vSpace™
Install
NComputing vSpace successfully installed!
You can start vSpace Console under:
Start -> Programs -> NComputing vSpace ->vSpace Console.
Display Readme
To start using the software, you must restart your system.
Do you want to restart your computer now?
Yes, I want to restart my computer now
No, I will restart my computer later
Restart
Exit

Note: You must reboot the computer before you can use the vSpace software or the access devices connected to the host PC.

NComputing™

Product Registration

The X350/X550 PCI card contains an embedded hardware license which allow it to support up to five/three access devices. When first installed, the X350/X550 starts a trial license which permits you to use up to five/three attached access devices for the next 30 days. Until you register, sessions are limited 60 minutes and a reminder info box like the one shown below will be displayed at least once a day on every user station. If you fail to register the X350/X550 card with NComputing (online or offline) within the 30-day trial period, the PCI card will cease to function.


vSpace -Trial mode!
X350 card #1 must be registered within 30 days.
User sessions are time limited until card is registered.
OK

Reminder box displayed daily on each user station attached to an unregistered PCI card.

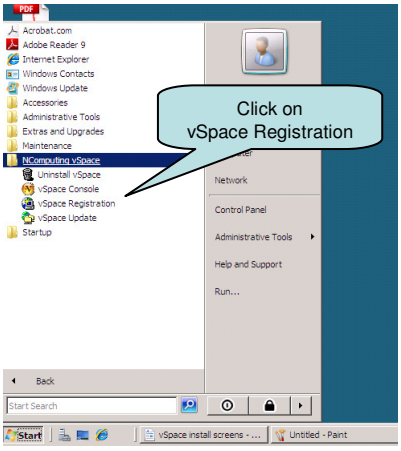
NComputing vSpace Exit Windows
Station work time limit!
Please close all your applications!
You have 0 minutes and 52 seconds
before the workplace will shut down
Exit Station Now

Warning box that 60 minute session limit has been reached that appears on user station prior to station shut down.

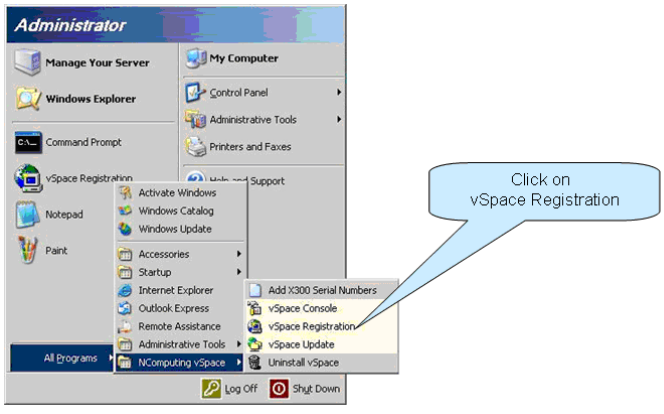
Allowing a card's trial license to expire will not prevent you from later registering the card. You can always launch the vSpace Registration application from the PC's main screen, via

Start > All Programs > vSpace > vSpace Registration

Then perform either online or offline registration, and full PCI card functionality will be delivered once the card is successfully registered with NComputing.



Windows Server 2008 screen

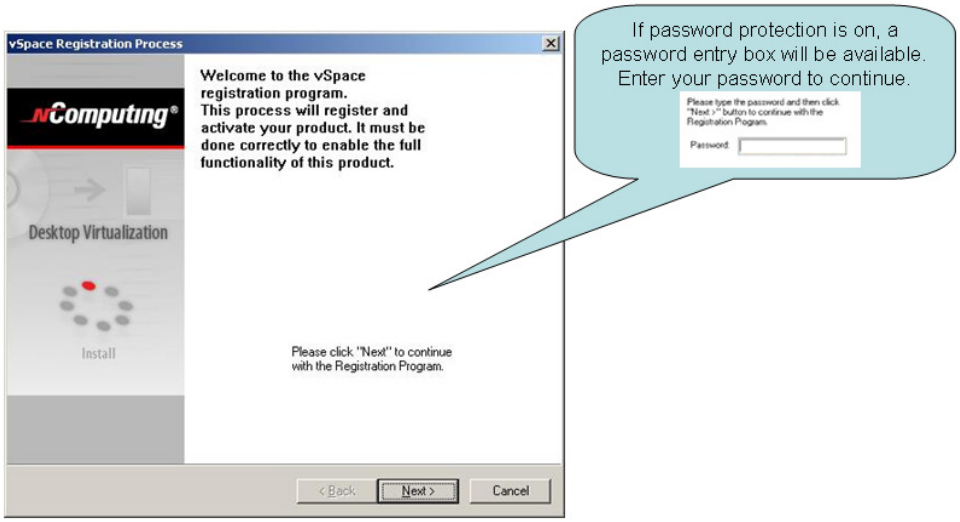


Windows Server 2003 screen

NOTE: If you have two matched X-series cards installed in the system, the vSpace Registration application will register both cards at the same time.

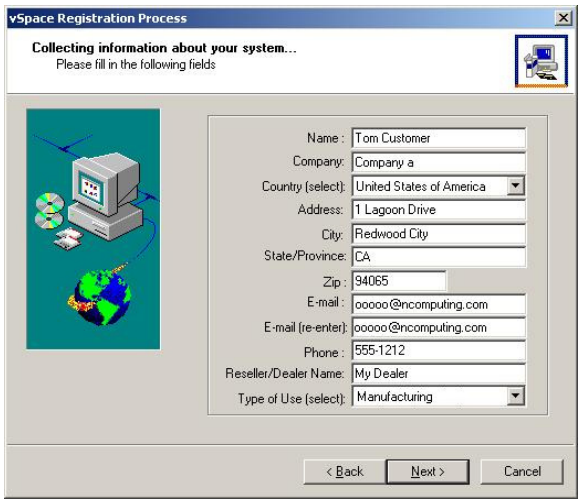
At any time during the registration process, you can use the "Back" button to return to a previous screen to change your entries, and you can also click on the "Cancel" button to cancel the process at that point.

At the registration program “welcome” screen, if vSpace password protection is turned on, you will need to enter your password. Then Click the "Next" button.


vSpace Registration Process
Welcome to the vSpace registration program. This process will register and activate your product. It must be done correctly to enable the full functionality of this product.
Desktop Virtualization
Install
Please click "Next" to continue with the Registration Program.
< Back
Next >
Cancel
If password protection is on, a password entry box will be available. Enter your password to continue.
Password

At the "Collecting information about your system" screen, enter the name of the person that will be maintaining the vSpace software on this system. You must also enter the person’s company, select a location country from the dropdown box, enter street address, city, state/province, zip code, and phone number, reseller/dealer name where the product was purchased, and select the type of expected product use from the second dropdown box. The email address must be entered twice and the two fields are compared to prevent typing errors.

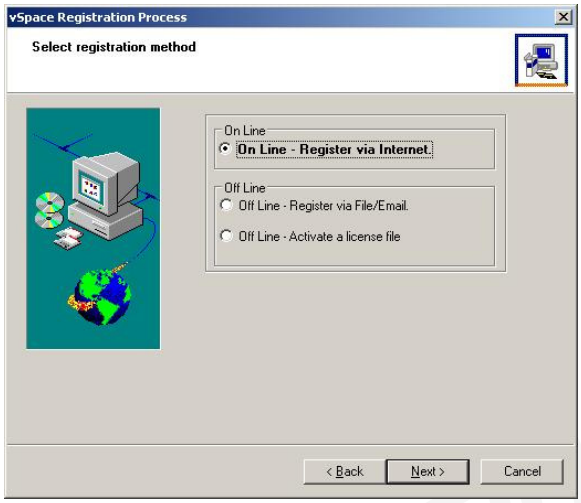
All fields in this screen must be completed. When finished, click the "Next" button.



The "Select registration method" screen allows you to pick how you will register your X350/X550 PCI card.

Remember that successful registration is necessary for the X350/X550 card to function past the initial 30 days.

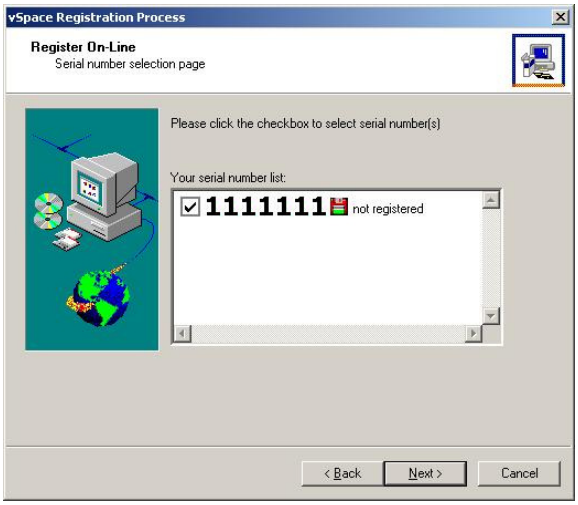
You can select to register either “On Line” or “Off Line,” and after selecting the desired registration method, click on the "Next" button.



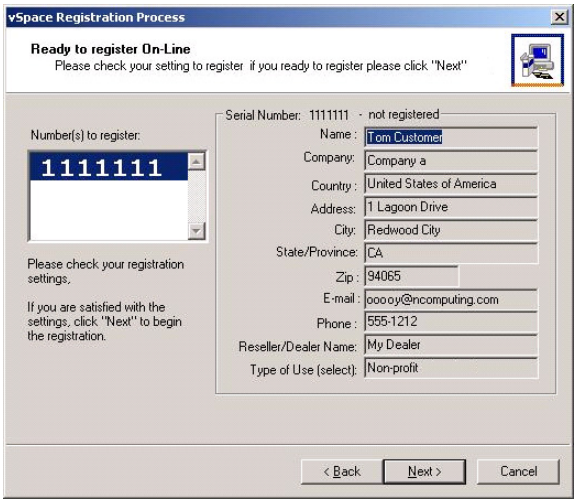
If you choose online registration, follow the instructions in the next section. If you have chosen offline registration, skip ahead to that section.

Online Registration

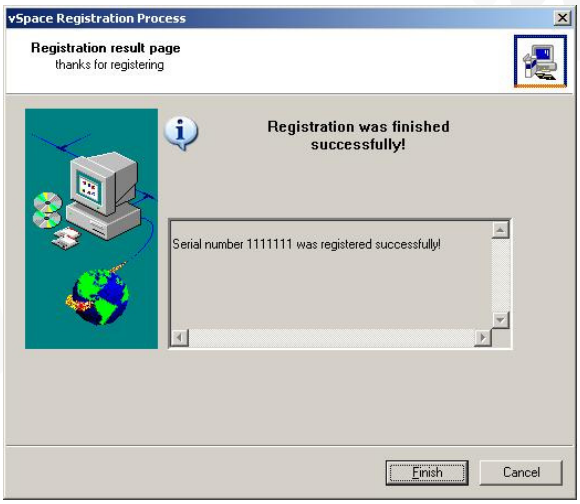
When you select to register online, the screen presented allows you to select what serial number(s) to register. The window provides a list of X350/X550 PCI card number(s) read directly from the card(s). For each serial number, the window shows if it is registered or not yet registered. Any unregistered PCI card(s) will have the appropriate box checked. Click on the "Next" button to proceed.



In the "Ready to register On-Line" screen, you will see the user information previously entered and the PCI card numbers chosen for registration. Confirm that the information is correct and click on the "Next" button to complete the process.


vSpace Registration Process
Ready to register On-Line
Please check your setting to register if you ready to register please click "Next"
Number(s) to register:
1111111
Please check your registration settings,
If you are satisfied with the settings, click "Next" to begin the registration.
Serial Number: 1111111 - not registered
Name : Tom Customer
Company: Company a
Country : United States of America
Address: 1 Lagoon Drive
City: Redwood City
State/Province: CA
Zip : 94065
E-mail : ooooy@ncomputing.com
Phone : 555-1212
Reseller/Dealer Name: My Dealer
Type of Use (select): Non-profit
< Back
Next >
Cancel

You will then see a registration progress bar on the "On-line Registration process" screen. Once the online registration process has completed, you can view the results, including which PCI card(s) were successfully registered. Click on the "Finish" button.



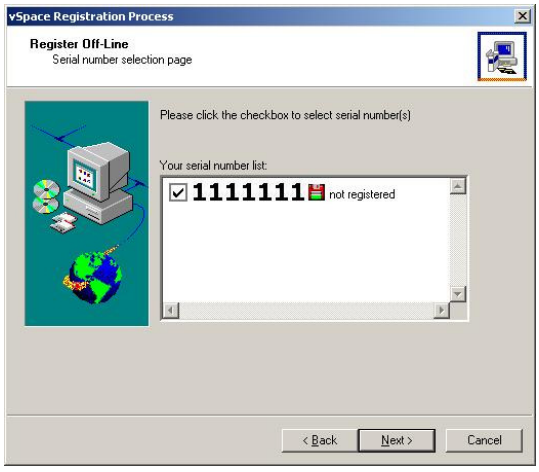
Offline Registration

In the offline registration function, you will create a file containing the PCI card number and the user registration information that must be emailed to:

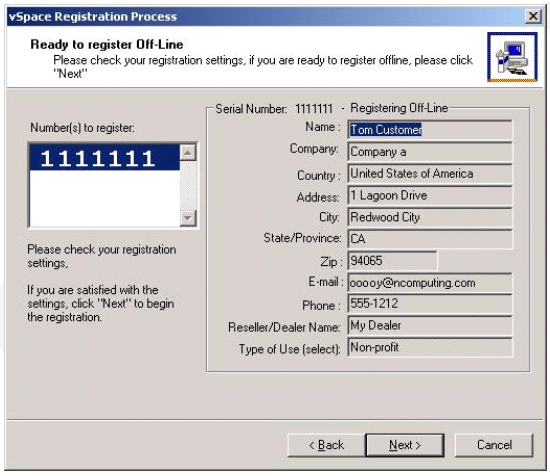
registration@ncomputing.com

Once a matching registration file has been emailed back, you will restart the “vSpace Registration” program and point the application to the location where you have stored the returned X350/X550 license (see multiple screen shots below).

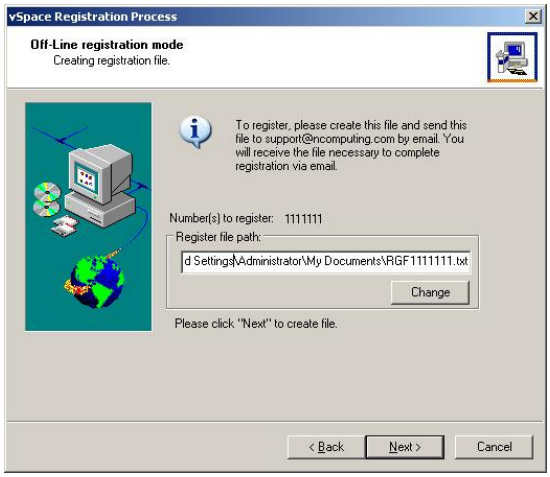
When you select to register offline, the screen presented allows you to select the serial number(s) to register. The window provides a list of X350/X550 PCI card number(s) read directly from the card(s). For each serial number, the window shows if it is registered or not yet registered. Any unregistered PCI card(s) will have the appropriate box checked. Click on the "Next" button to proceed.



In the next window, you see the user information previously entered and the PCI card numbers chosen for registration. Confirm that the information is correct and click on the "Next" button to complete the process.


vSpace Registration Process
Ready to register Off-Line
Please check your registration settings, if you are ready to register offline, please click "Next"
Serial Number: 1111111 - Registering Off-Line
Number(s) to register:
1111111
Please check your registration settings,
If you are satisfied with the settings, click "Next" to begin the registration.
Name : Tom Customer
Company: Company a
Country : United States of America
Address: 1 Lagoon Drive
City: Redwood City
State/Province: CA
Zip : 94065
E-mail : ooooy@ncomputing.com
Phone : 555-1212
Reseller/Dealer Name: My Dealer
Type of Use (select): Non-profit
< Back
Next >
Cancel

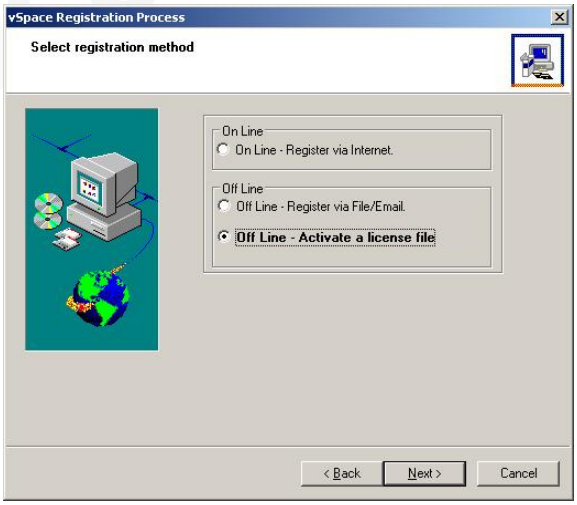
In the next screen, you select where to store the file that must be emailed to registration@NComputing.com and click the “Next” button.


vSpace Registration Process
Off-Line registration mode
Creating registration file.
To register, please create this file and send this file to support@ncomputing.com by email. You will receive the file necessary to complete registration via email.
Number(s) to register: 1111111
Register file path:
d Settings\Administrator\My Documents\RGF1111111.txt
Change
Please click "Next" to create file.
< Back
Next >
Cancel

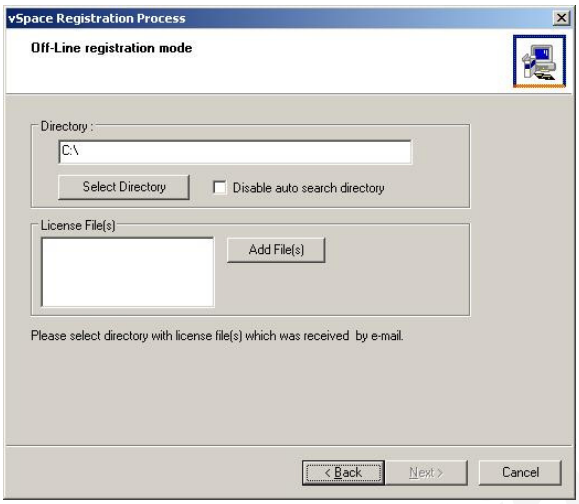
The offline registration file is then created and stored in the location specified.

Once the file is created, you can copy it to another PC, if necessary. Email that file to registration@ncomputing.com. You will receive an immediate email reply confirming that the registration information reached NComputing. If the registration system determines that the file is valid and that the X350/X550 is entitled to be activated, you will receive an email within the next 2 or 3 minutes with an attached license file specific to that X350/X550 card(s) and the PC in which it was installed.

Once you receive the license file, start the registration program again and select "Off Line – Activate a license file."



The next window allows you to specify a disk directory where you have stored your returned license file(s).



The registration program will search through the specified disk directory (it can be on a USB disk-on-key device or network share) looking for the specific license file that matches the X350/X550 PCI card(s) installed in this PC.

When the registration program locates the correct license file(s), the license removes the 30-day time limit from the PCI card(s). Click on the "Finish" button to complete the offline registration process.

Upgrading Your PC or Moving Your Card to Another PC

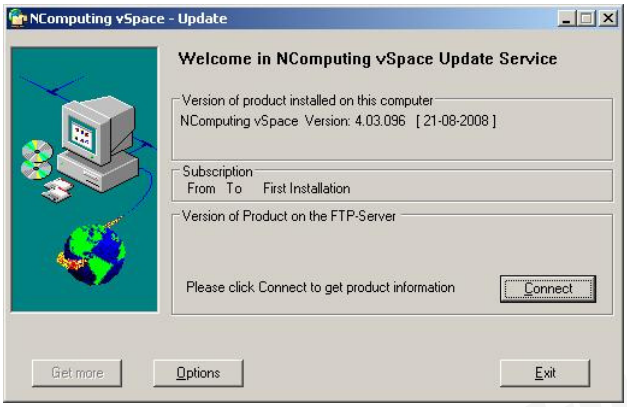
The registration process assigns your vSpace software license and X-series PCI card to the specific host PC in which they are installed. If you change or upgrade multiple components on your PC, such as the hard drive and operating system or if you move the PCI card to another PC, you will need to re-assign your software license and card to the new host PC configuration. When making such a change, simply repeat the online or offline registration process. ***You can reassign your license in this way a maximum of two additional times after your initial registration. If you exceed this limit you will need to contact NComputing technical support.***

Uninstallation

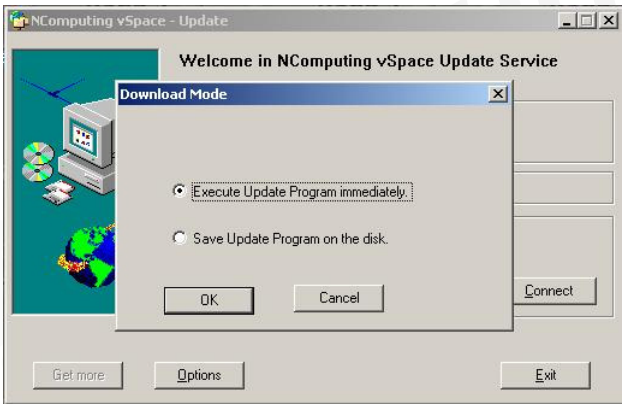
To uninstall the vSpace software, select “Uninstall vSpace” from the “Start” menu. Follow the prompts and the vSpace software is removed from the host PC. You will be prompted to restart the host PC to complete the process.

Updating the vSpace Software

Once you have successfully completed the registration process, you can update the software directly over the Internet by selecting “Update vSpace” from the “Start” menu (provided that updates for which you may be entitled to are available).

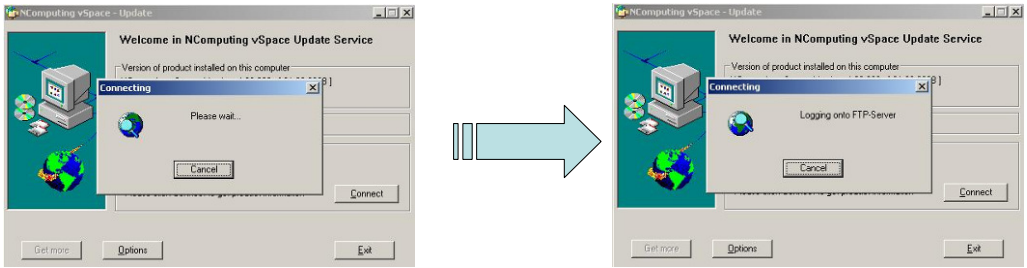


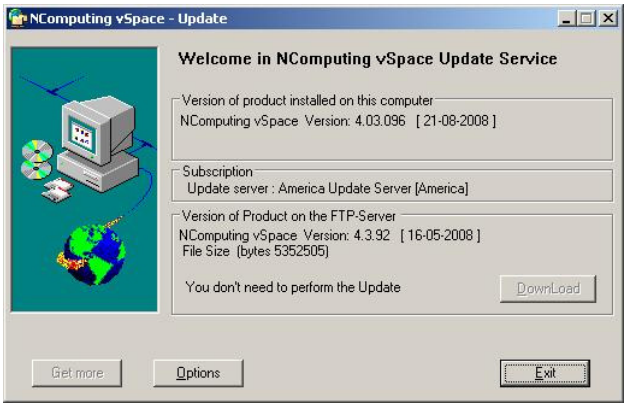
Note: If the “Enter Password” window appears, enter the administrator password.



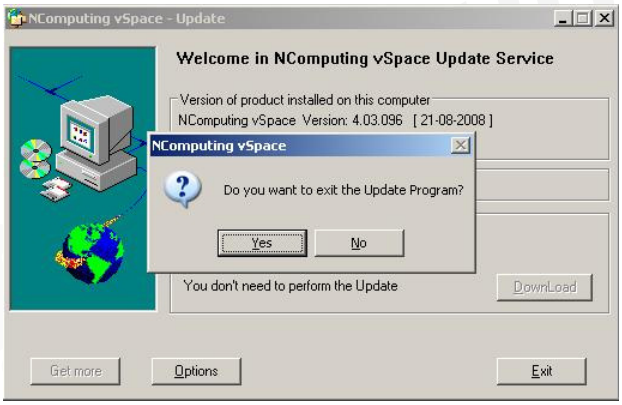
Click the “Options” button to select whether to you want the update done right now, or if you would like to save the update program to a file. If you save the update to a disk, you can apply the update later, and/or you can carry the update to another PC to update vSpace on that PC without connecting to the internet.

Clicking the “Connect” button checks for the availability of a software update.




NComputing vSpace - Update
Welcome in NComputing vSpace Update Service
Version of product installed on this computer
NComputing vSpace Version: 4.03.096 [21-08-2008]
Subscription
Update server : America Update Server [America]
Version of Product on the FTP-Server
NComputing vSpace Version: 4.3.92 [16-05-2008]
File Size (bytes 5352505)
You don't need to perform the Update
DownLoad
Get more
Options
Exit

If there is a new version available, click on the "Download" button to start the update process. When the download is complete: 1) if you previously used the options button to select "save update program to disk," the update will be saved to disk for you to apply later; 2) if you didn't use the options button to modify the standard update behavior, installation of the new version will immediately begin.



If there was no new version available, simply click on the "Exit" button. You will be asked to confirm that you want to exit, and then the update program ends

The core version number for your vSpace software installation can be found by going to:

Start → All programs → NComputing vSpace → vSpace Update

Launch the Update Wizard and it will show you the current version installed on your system (i.e. 4.4.004).

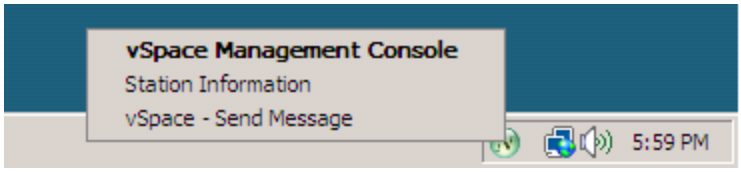
Note that the vSpace Console application has it's own version number that can be found by clicking on Help → About vSpace Console (note this is typically a subset of the main software version, e.g. 4.4). The version of the graphics driver for the X550/X350 can be found by going to the Device Manager and clicking on Display Adapters → X550

Graphic Controller → Properties → Driver (this driver version will have an additional digit added to the core vSpace version).

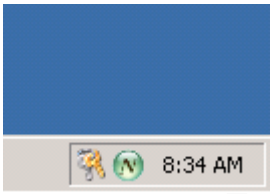
Using the vSpace Console

Start the management console from the Windows Start menu. The application is called, "vSpace Console."

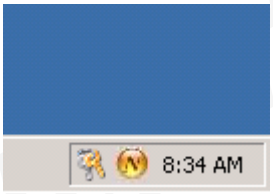
You can also start the management console by right-clicking on the NComputing icon in the system tray and selecting "vSpace Management Console" or by simply double-clicking on the NComputing icon in the system tray.



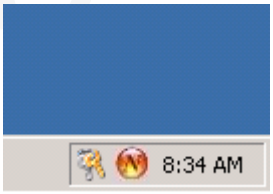
The current color of the NComputing system tray icon displayed on the administrator's host station provides vSpace status information



vSpace is enabled and running normally.



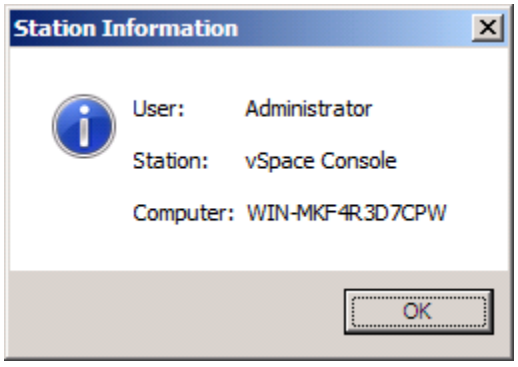
vSpace is enabled and running, but a minor system module inconsistency has been noted. Please check NComputing online Knowledge Base for any recommended software update.



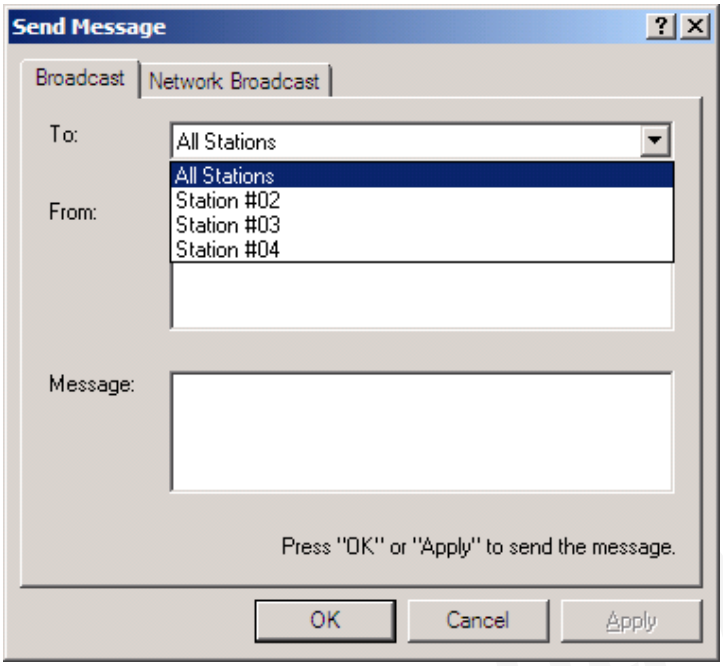
vSpace has been disabled on this system.

Other vSpace options available from a right-click on the system tray icon are:

- Station Information – tells you about the station where logged-in

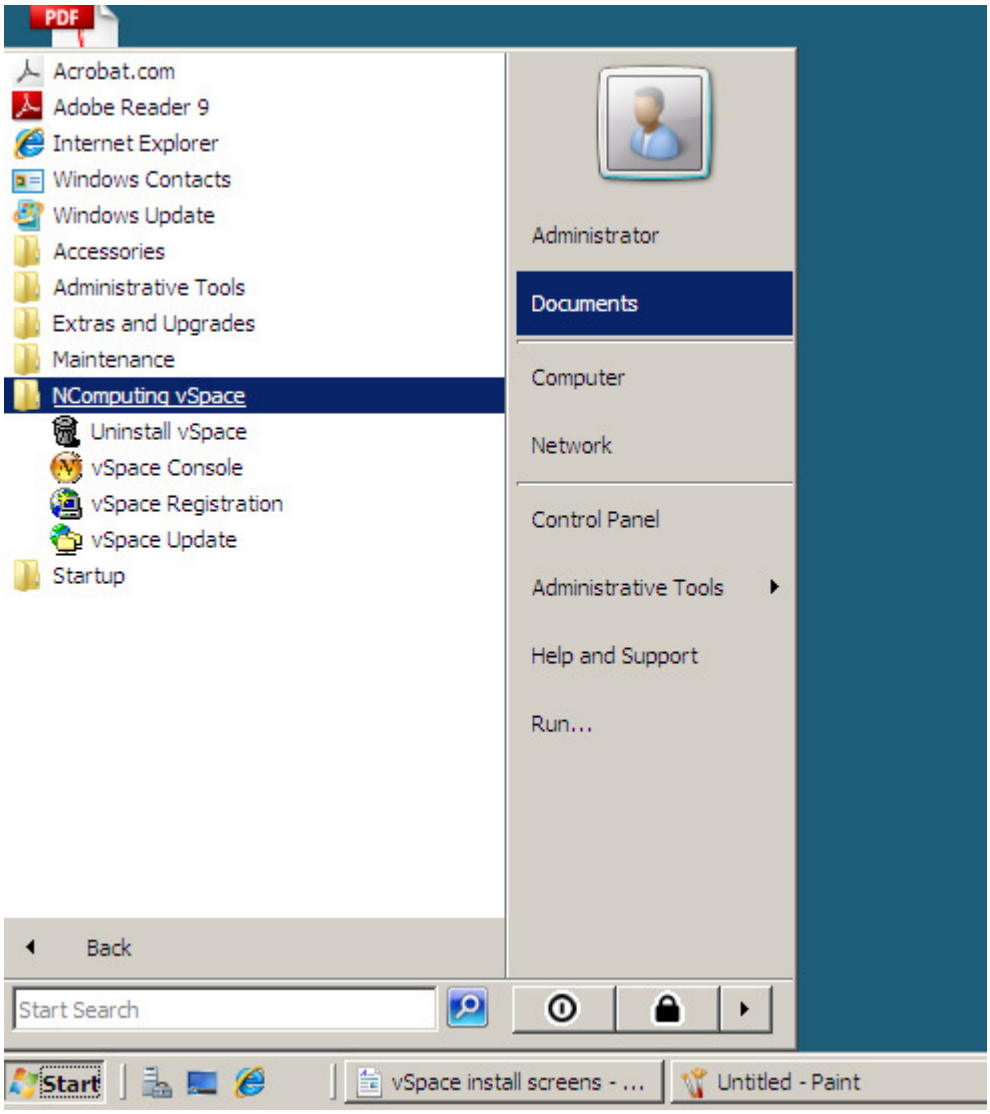


- Send Message to other vSpace users on this system.



Send a message to users on the same vSpace PC as this user.

From the Start menu, vSpace has the following four commands:

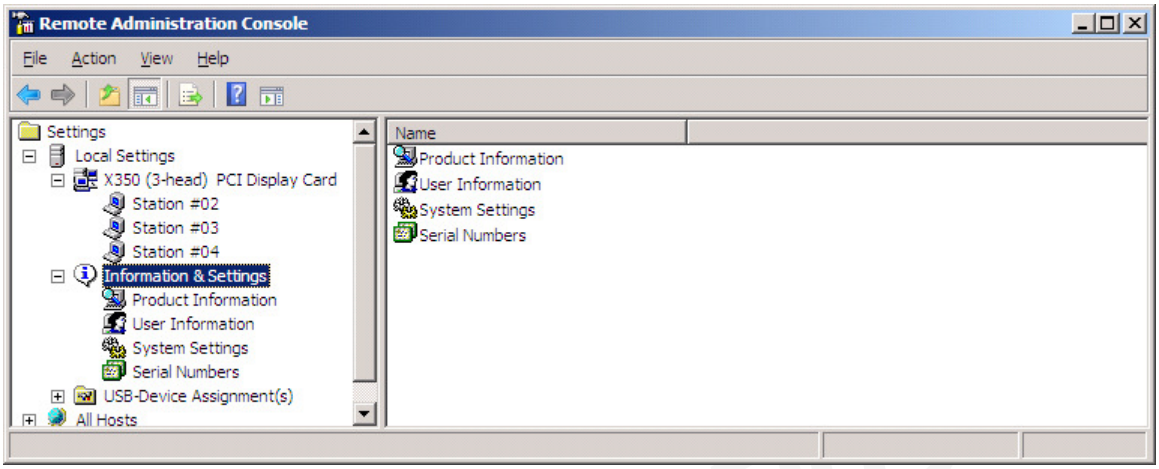


- Uninstall vSpace: will uninstall the vSpace software
- vSpace Console: will launch the Remote Administrator Console
- vSpace Registration: will launch the registration process
- vSpace Update: will launch a utility that enables online software updates

vSpace Administration Console Interface

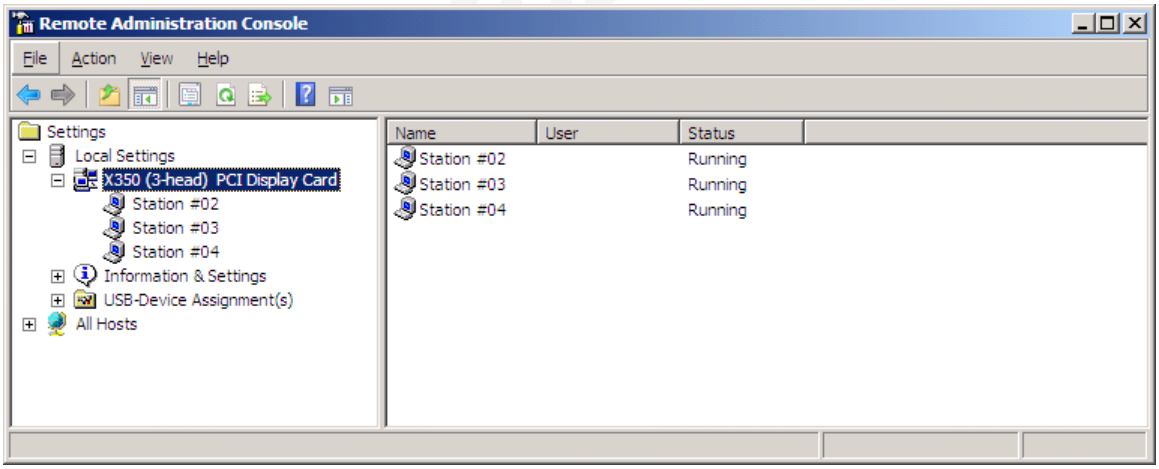
Local Settings

The "Local Settings" tree allows you to see and change settings for this host PC



X350/X550 PCI Card

Selecting the "X350 PCI Card" or “X550 PCI Card” item shows information about all the vSpace sessions currently possible on that PCI card.



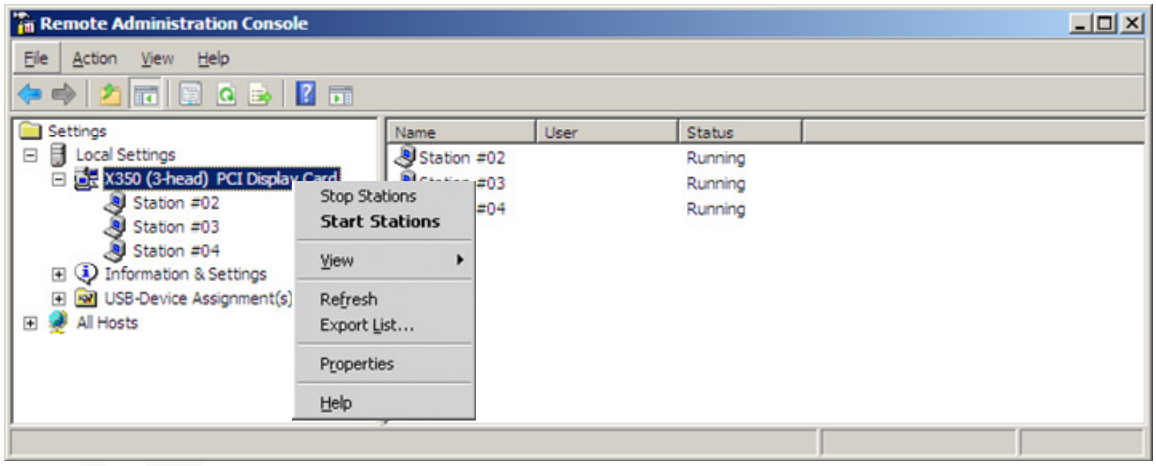
By right-clicking on the selected “X550 PCI Card” (or “X350 PCI Card”) item you can:

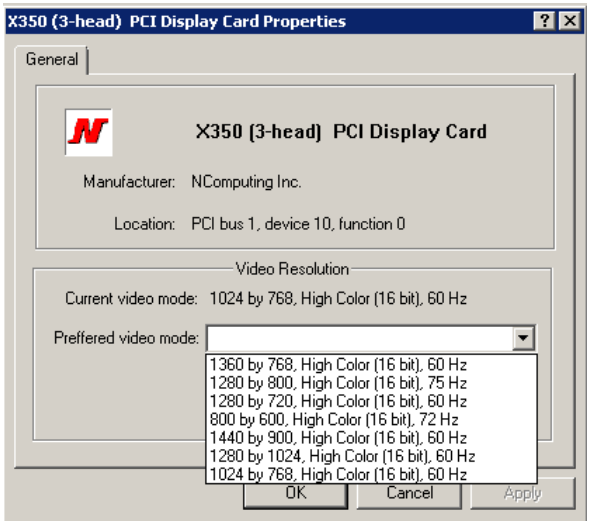
- **Stop Stations:** this will stop the sessions on all of the user stations that are connected to this card at once.
- **Start Stations:** this will start the sessions for all stations connected to this card if they are in the stopped state.
- **View:** this lets you select different viewing options for the information in the right pane.
- **Refresh:** refreshes the information displayed in the right pane

- **Export List:** Exports a list (tab or comma delimited text file) that can be used to keep a record of which users (if any) are logged-in to each station at a point in time.
- **Properties:** Display or modify the properties defined for that particular PCI Card.

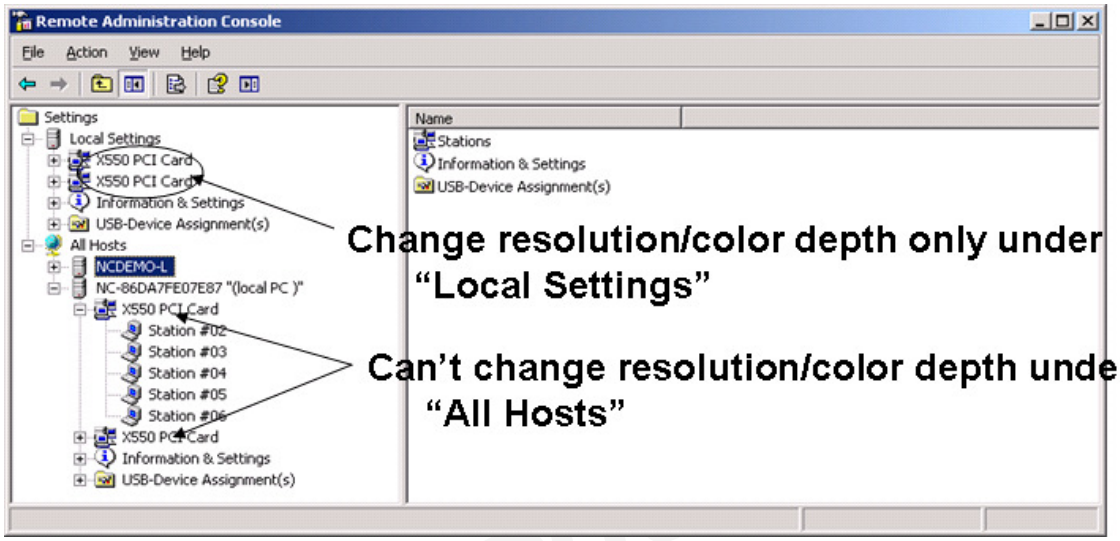
  NOTE: All stations attached to the same X350/X550 PCI card will use the same resolution and color depth that is set in the Administration Console. Selecting the Properties option brings up a new window that allows setting the common monitor resolution and color depth. (A system reboot is required before the new resolution and/or color depth can take effect.)

  Note: you CANNOT change the monitor resolution and color depth from the Display Properties on each individual station (e.g. right clicking on the Windows desktop).

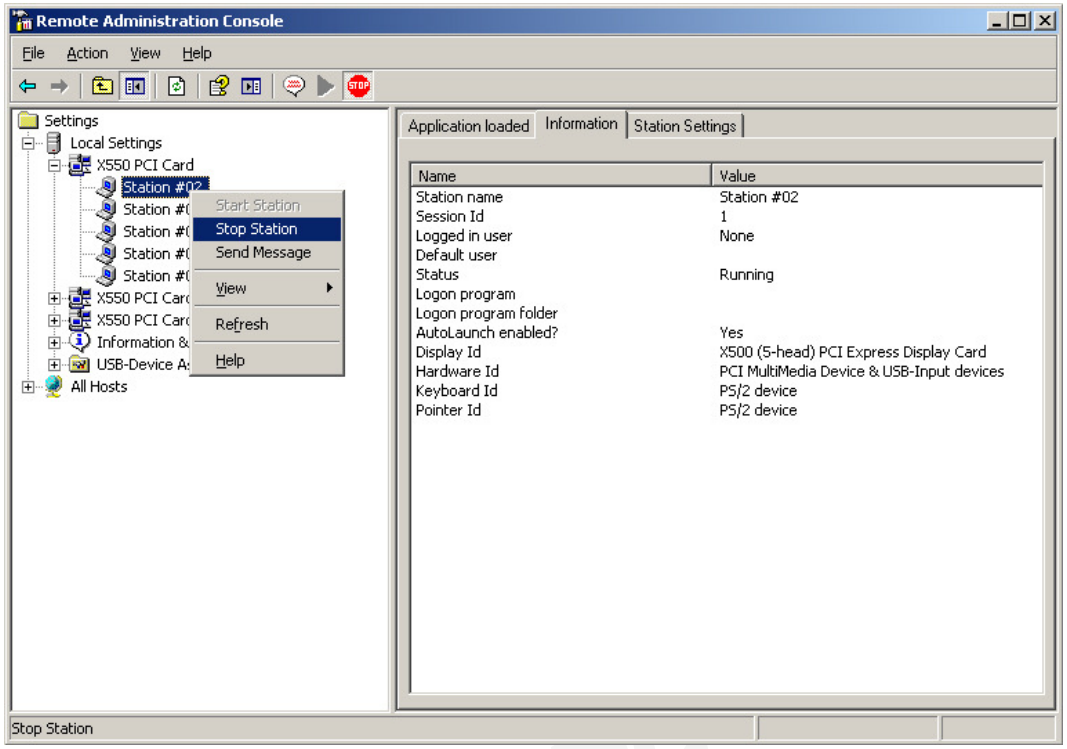


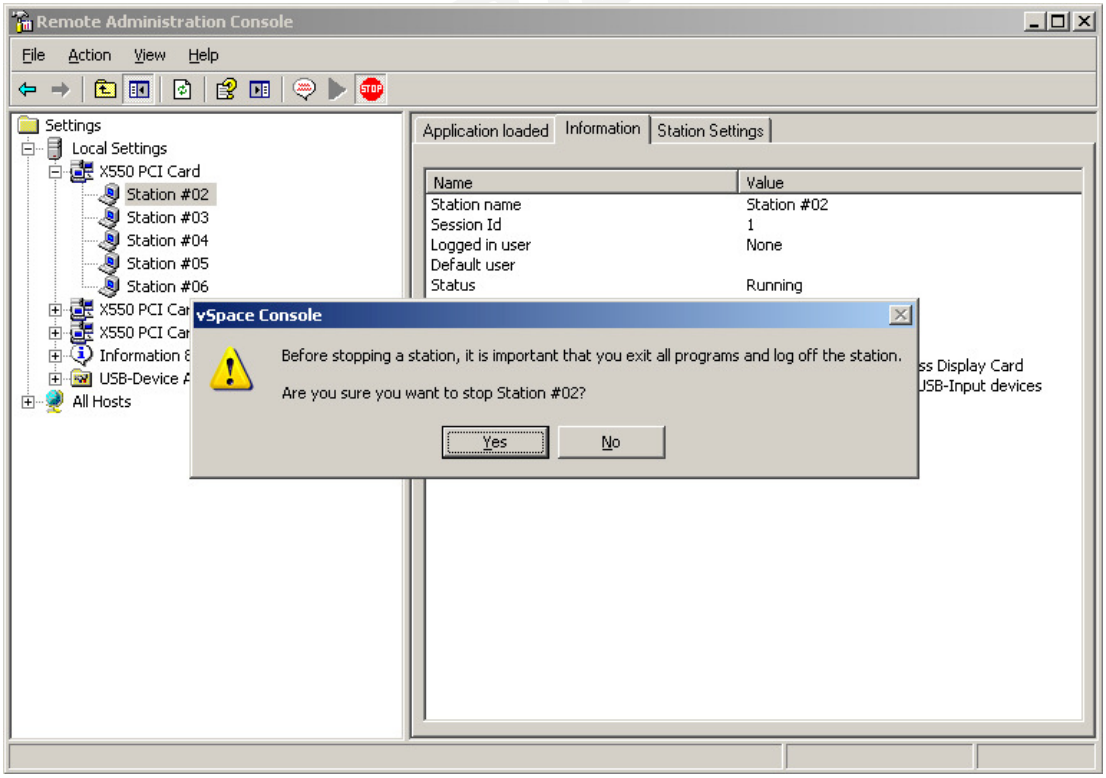

X350 (3-head) PCI Display Card Properties
General
X350 (3-head) PCI Display Card
Manufacturer: NComputing Inc.
Location: PCI bus 1, device 10, function 0
Video Resolution
Current video mode: 1024 by 768, High Color (16 bit), 60 Hz
Preffered video mode:
1360 by 768, High Color (16 bit), 60 Hz
1280 by 800, High Color (16 bit), 75 Hz
1280 by 720, High Color (16 bit), 60 Hz
800 by 600, High Color (16 bit), 72 Hz
1440 by 900, High Color (16 bit), 60 Hz
1280 by 1024, High Color (16 bit), 60 Hz
1024 by 768, High Color (16 bit), 60 Hz
OK
Cancel
Apply

NOTE: Changing the PCI card's resolution and/or color depth is only allowed from the admin console on the local system. Properties for cards inside other network systems can be remotely viewed, but resolution/color depth changes cannot be remotely applied.



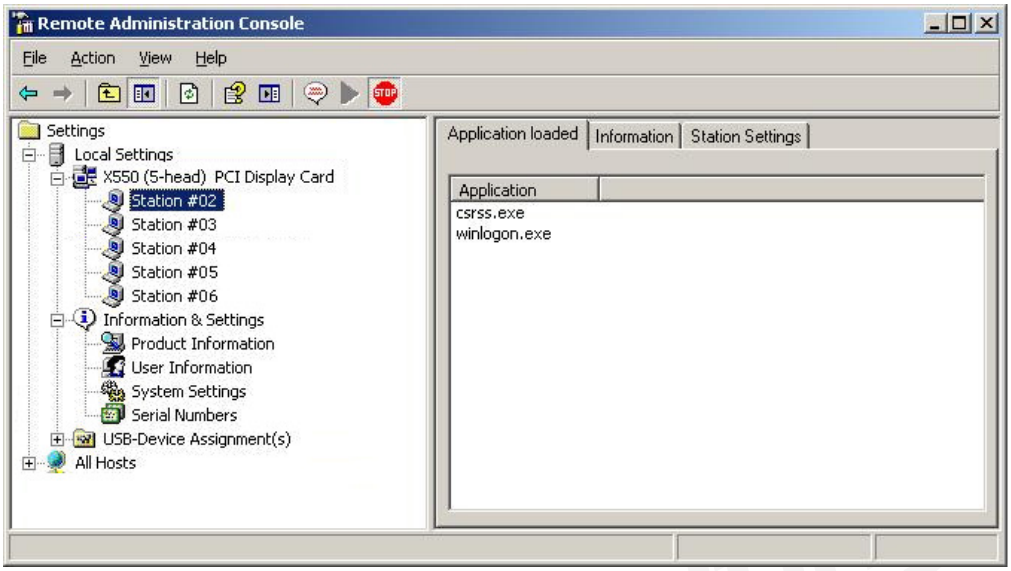
Right clicking a station in the left window, allows you to force that station (and the associated user session) to stop. Note: you can also stop the station by clicking the red "Stop" button in the tool bar when you have selected a station. A confirmation window asks if you want to stop the selected station. It also reminds you to exit all programs and log off the station. In the same way you can also start a station either by right-clicking the station and selecting "Start Station" or by clicking the triangle button (next to the stop button) in the toolbar at the top of the window.





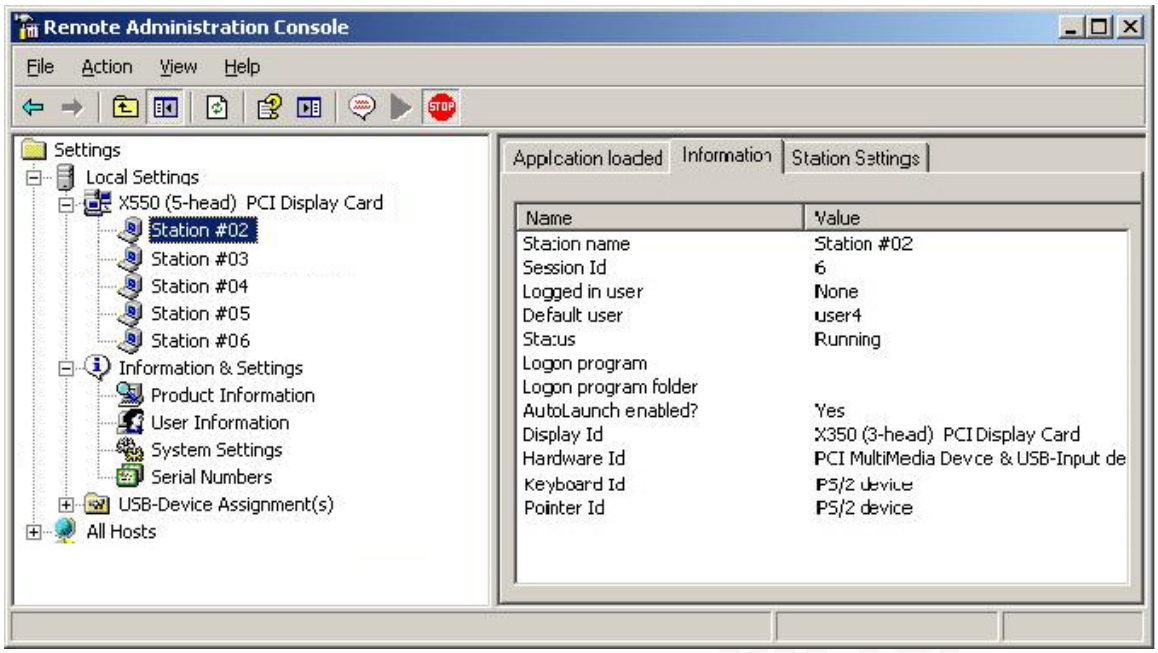
Right clicking a station in the left window (or clicking the message icon in the toolbar) allows you to send a message to the screen of the user session currently running on that station. From this window, you can only send messages to stations attached to this PC.

If you right click directly on a “station number,” you can access three tabs of available information. The "Application loaded" tab shows all the applications running on that station’s session.

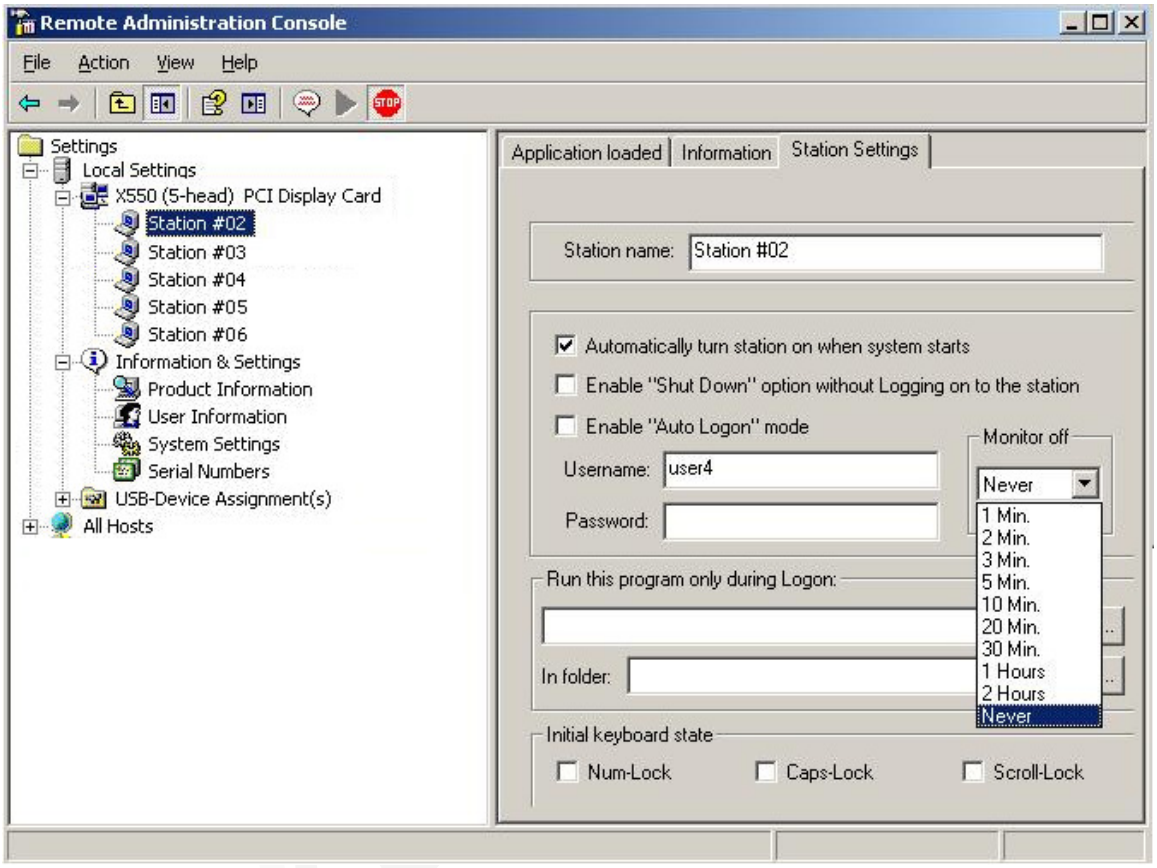


The "Information" tab (seen below) shows the following information about the selected station’s session:

- **Station name**: the access device / station’s “provisioned name”
- **Session ID**: the vSpace session number for the session on this station.
- **Logged in user**: the username that is currently logged in.
- **Default user**: the default username for the access device session. If one is not configured, it shows the last user that logged in.
- **Status**: the session status.
- **Logon program**: the filename that will run at session login (typically a kiosk type application)
- **Logon program folder**: the folder where the logon program exists.
- **AutoLaunch enabled**: the station’s automatic launch status.
- **Display Id**: the PCI card ID for the card to which this station is attached
- **Hardware Id**: the virtual hardware “name” for the station’s access device
- **Keyboard Id**: what type of keyboard interface is used (always PS/2)
- **Pointer Id**: what type of pointer interface (i.e., mouse) is used (always PS/2)


Remote Administration Console
File
Action
View
Help
Settings
Local Settings
X550 (5-head) PCI Display Card
Station #02
Station #03
Station #04
Station #05
Station #06
Information & Settings
Product Information
User Information
System Settings
Serial Numbers
USB-Device Assignment(s)
All Hosts
Application loaded
Information
Station Settings
Name
Value
Station name
Station #02
Session Id
6
Logged in user
None
Default user
user4
Status
Running
Logon program
Logon program folder
AutoLaunch enabled?
Yes
Display Id
X350 (3-head) PCI Display Card
Hardware Id
PCI MultiMedia Device & USB-Input de
Keyboard Id
PS/2 device
Pointer Id
PS/2 device

The “Station Settings” tab shows parameters that can be set for each station.



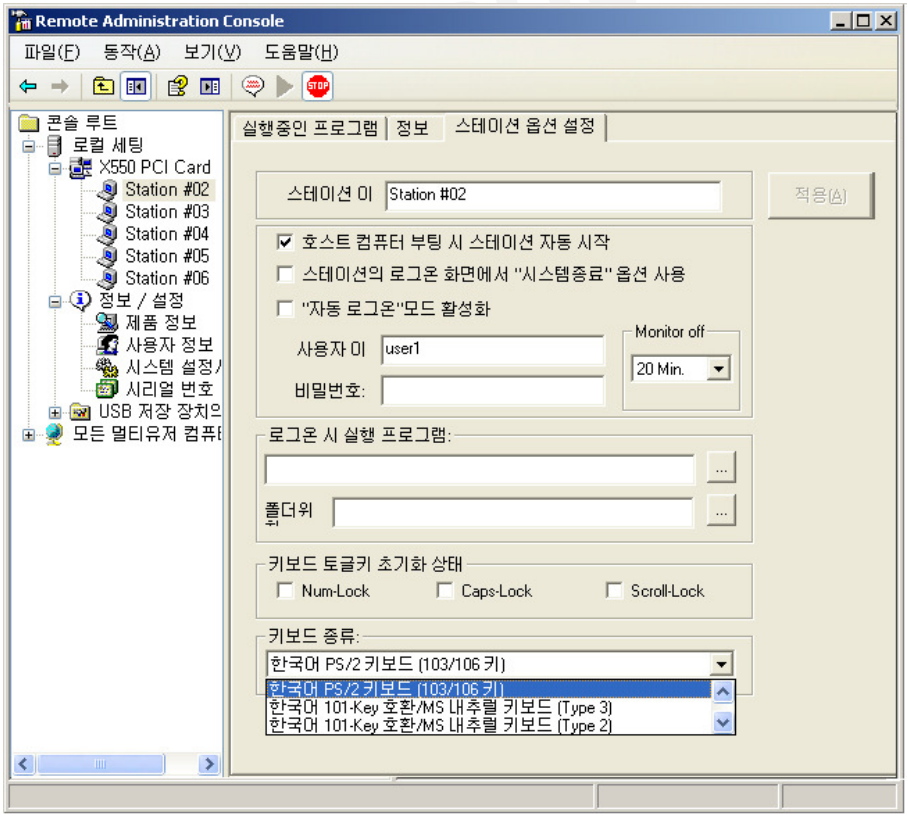
The parameters settable from this window are:

- **Station name**: The “provisioned name” of the station.
- **Automatically turn station on when system starts**: If you unset this checkbox the station (and its monitor) will not start when the system boots up. This is normally left defaulted to on; otherwise, you will have to manually start the station from this administration console. In the tool bar, individual stations can be turned on or off by using the green triangular arrow or red stop sign.
- **Enable “Shut Down” option without logging on to the station**: If this is turned on, access device users see the shut down options in their logon window and their “Start” programs tab. This would allow the host PC to be shut down without a valid user logon. If this is turned off, the shut down options are not visible until the user logs on.
- **Monitor off:** An individual X-series station consumes less than one watt of power, but the monitor attached to it consumes many times that (50-70 watts for an LCD monitor and well over 100 watts for a CRT). Thus the X350/X550 PCI card provides an EXTRA “energy saver” setting that is independently configurable for each access device or station. This drop down sets the amount of time the station can be idle before the X350/X550 puts the monitor into a sleep state. Moving the mouse or hitting a key on the keyboard attached to the corresponding access device will wake the monitor back up. The installation default value for “Monitor off” is 20 minutes. Selecting the value of “Never”

means that the monitor will always remain powered on. (All normal screen saver functions still apply to prevent monitor "burn.")

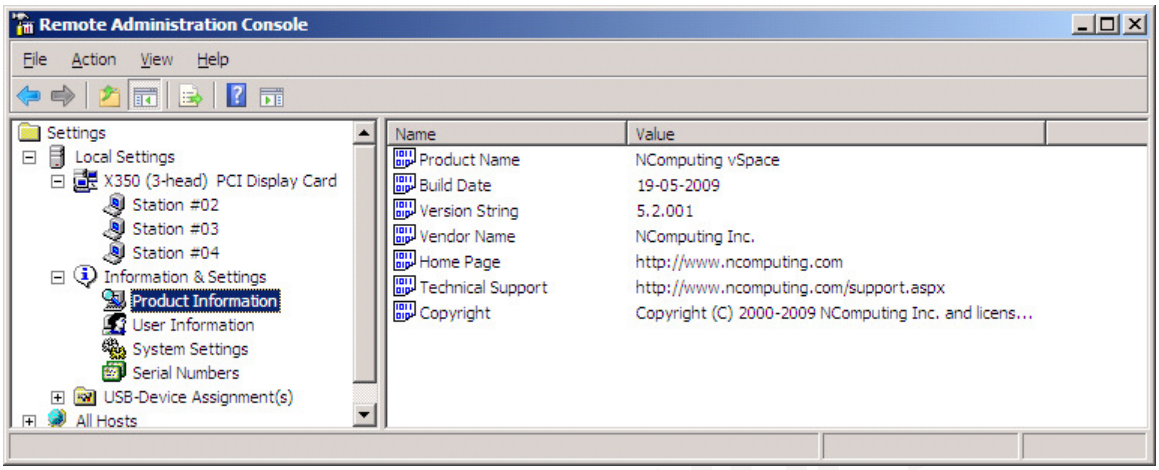
- **Enable "Auto Logon" mode**: When this is enabled and there is an entry in the "username" and "password" fields, the specified username is automatically logged in when the station starts. Note: a password must be entered to enable this feature. Also, note that in some environments your Windows Group Policies may require users to first hit "CTRL-ALT-DEL" to complete a logon.
- **Run this program only during Logon**: and **In folder:**

  When you select a program to run and the folder where it is located, the program is started when there is a logon using the station. (This option along with the Enable Auto Logon are often used in setting up unattended kiosk environments.)
- **Initial keyboard state**: These check boxes allow setting the specific keyboard states that will be active when the station starts. There are separate settings for Num-Lock, Caps-Lock and Scroll-Lock.
- **Keyboard Type** (*only visible on operating systems using double-byte characters such as the Korean language OS*): Use this drop down to select the appropriate keyboard type from the available options (see below).

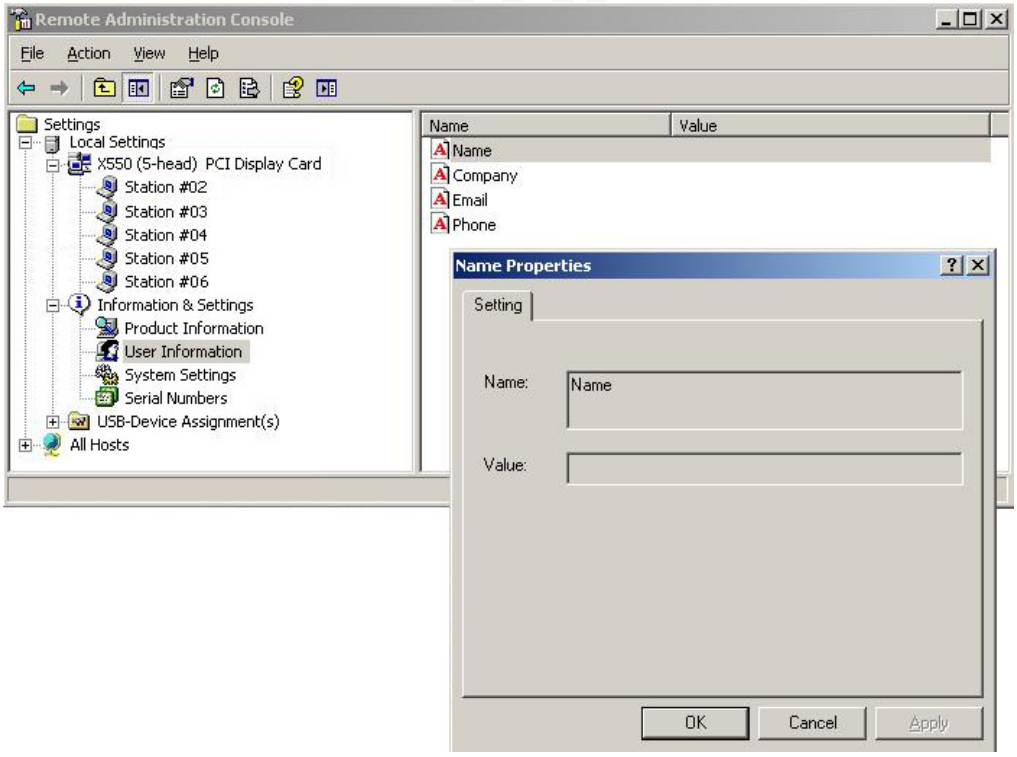


Information & Settings

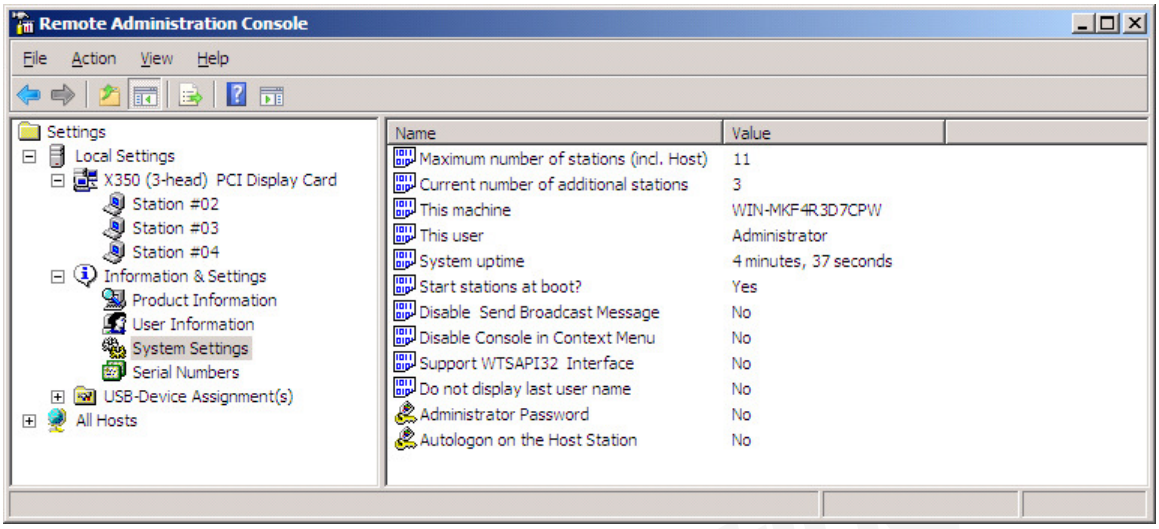
The "Product Information" item shows information about the installed vSpace software, such as product name, build date, version string and vendor information. (You cannot modify these values.)



The "User information" item shows the information entered during the registration process, and double clicking an item brings up a window allowing you to change the value.



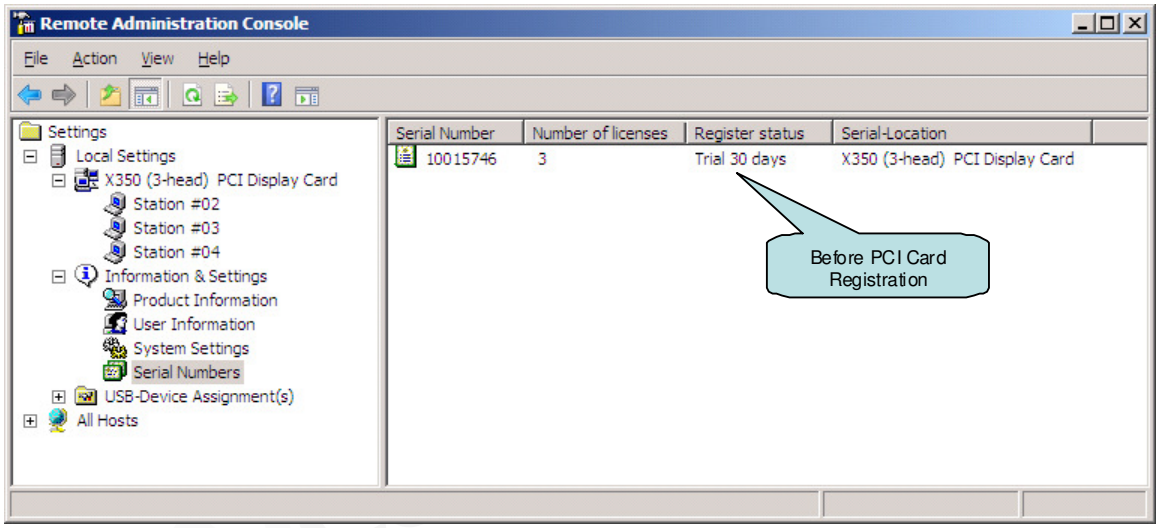
The "System Settings" item shows the following settings for the vSpace software. Double-clicking on the name of the setting allows you to adjust it, unless it is read-only, which is specified below.

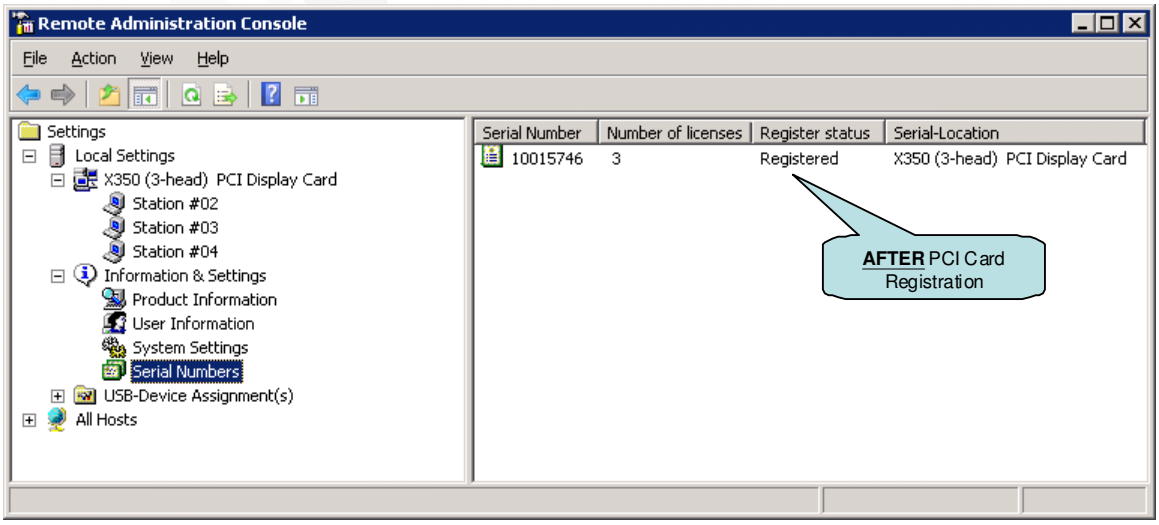


- **Maximum number of stations (incl. Host)**: the maximum number of sessions the vSpace software is configured to support. This number includes the host PC. This setting is read-only.
- **Current number of additional stations**: the number of additional stations. This setting is read-only.
- **This machine**: the name of the host PC. This setting is read-only.
- **This user**: the currently logged-in user's username. This setting is read-only.
- **System uptime**: how long the system has been up. This setting is read-only.
- **Start stations at boot?**: whether or not the stations start when the host PC boots. You can set this either on or off.
- **Disable Send Broadcast Message**: sets whether or not the administrator has disabled broadcast messages from the NComputing vSpace icon in the Windows System Tray so a user who cannot access the vSpace console cannot use the function of sending a broadcast message. You can set this either on or off. If "off" it is possible to send broadcast message from vSpace console. Go to Local settings in the vSpace console → right click on the station number → send the message.
- **Disable console in context menu:** when enabled, the user cannot launch the console from the NComputing vSpace icon in the Windows System Tray.
- **Support WTSAPI32 Interface**: (Option may be disabled in some versions of vSpace.) Controls whether support for the WTSAPI32 application interface is turned on or off. This setting is intended to support certain management applications.
- **Do not display last user name:** when enabled, the user name field in the Windows logon screen will not be auto-populated with the information from the last user to have logged into a session on that station.

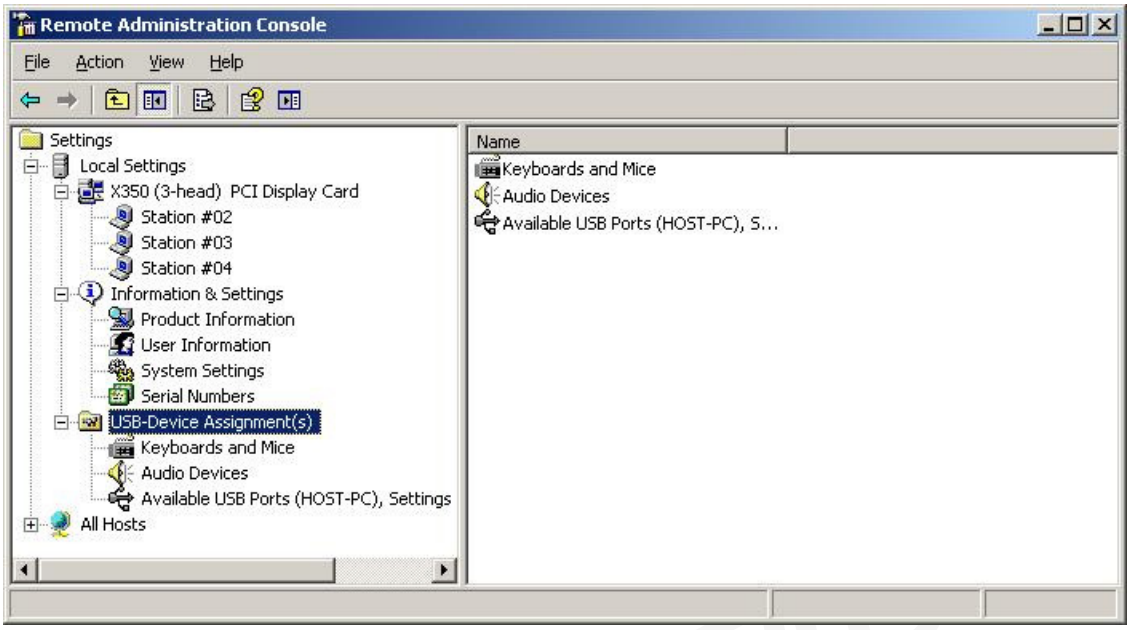
- **Administrator Password**: whether an administrator password is set. You can change the administrator password properties.
- **Autologon on the Host Station**: whether the host PC is set to start without the Windows logon screen and what username and password to use to bypass it. You can enable or disable autologon and define the username and password.

The "Serial Numbers" item shows a list of serial numbers of access devices that have connected to the vSpace software. For each serial number, it shows the number of licenses required for that access device, the station number (if available), whether or not it is registered, and the location of the serial number record.



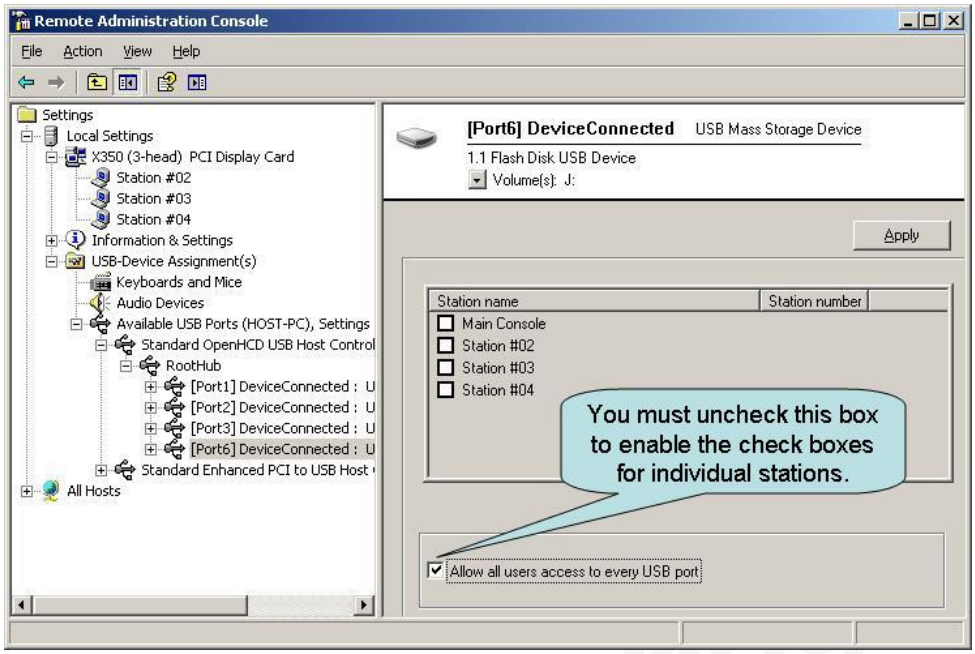


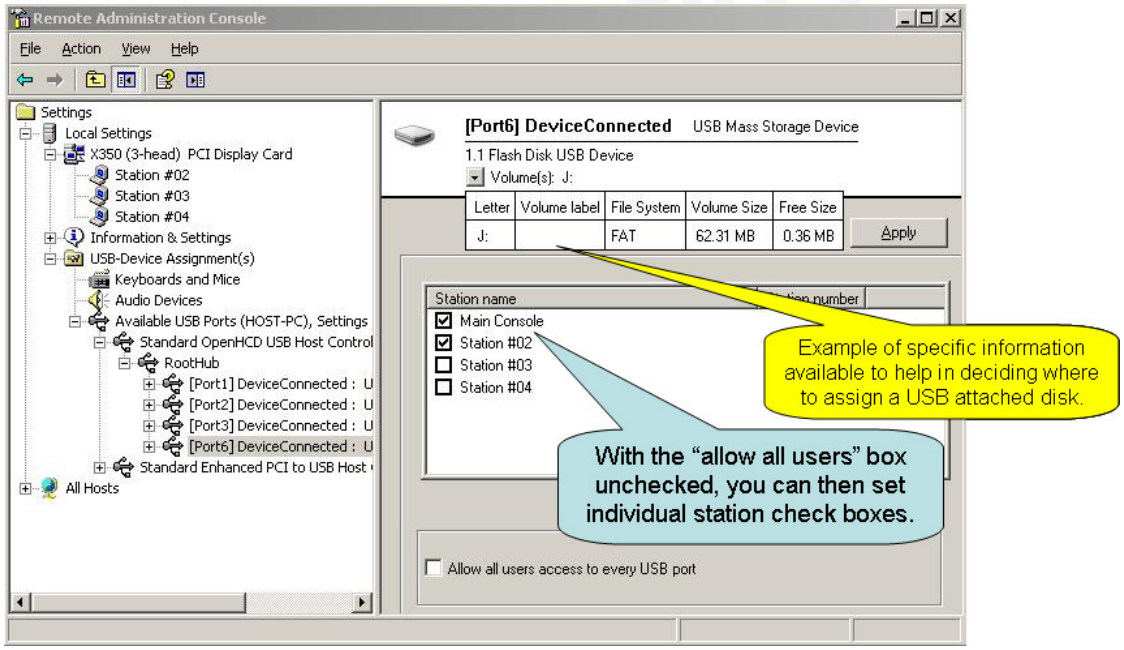
USB-Device Assignment(s)

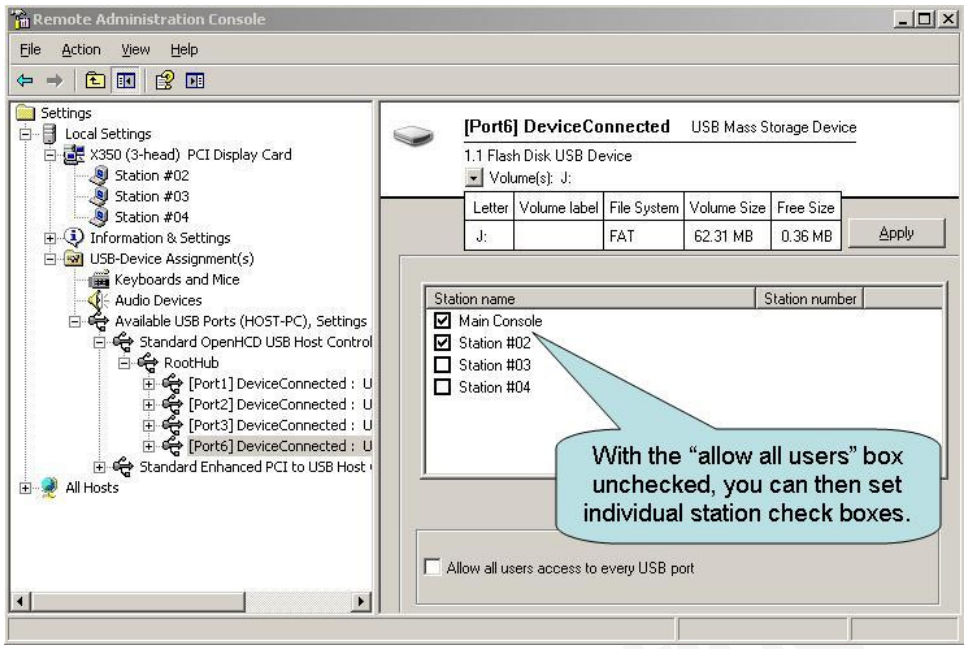


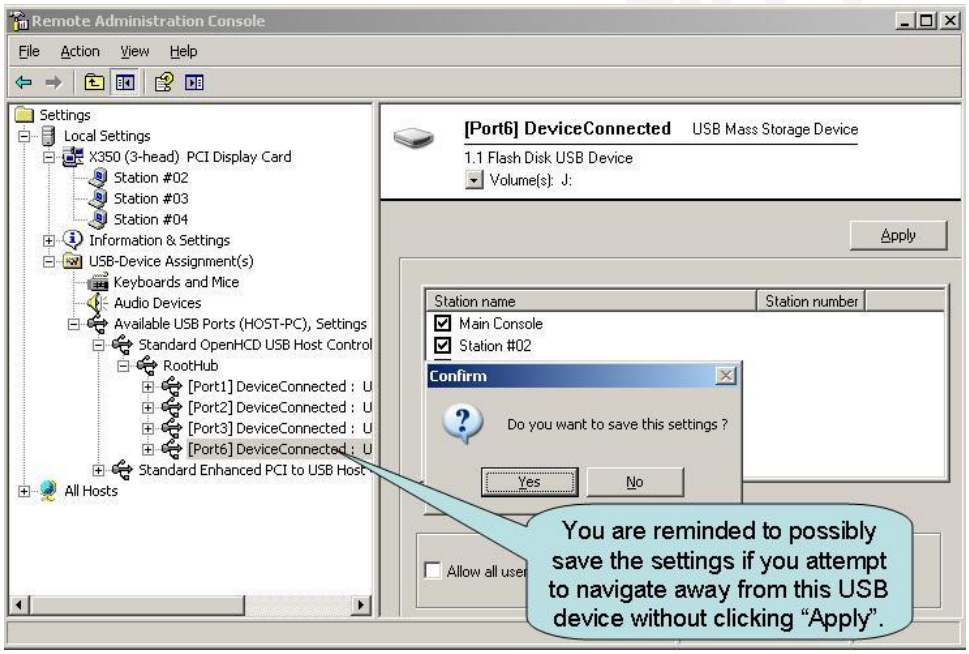
In the "USB-Device Assignment(s)" item, you can control what USB ports on the host PC are connected to which access device (station). To use this function, navigate the tree to select a connected USB device. After selecting a device, the following information will be displayed in the right hand window.

- The device's name.
- The device's description.
- A check box for "Allow all users access to every USB port". When this is selected, all stations are connected, as if on one hub. When it is not checked, there is a list of “station IDs” and you may select which one(s) can connect to the device.


Remote Administration Console
File Action View Help
Settings
Local Settings
X350 (3-head) PCI Display Card
Station #02
Station #03
Station #04
Information & Settings
USB-Device Assignment(s)
Keyboards and Mice
Audio Devices
Available USB Ports (HOST-PC), Settings
Standard OpenHCD USB Host Control
RootHub
[Port1] DeviceConnected : U
[Port2] DeviceConnected : U
[Port3] DeviceConnected : U
[Port6] DeviceConnected : U
Standard Enhanced PCI to USB Host
All Hosts
[Port6] DeviceConnected USB Mass Storage Device
1.1 Flash Disk USB Device
Volume(s): J:
Apply
Station name
Station number
Main Console
Station #02
Station #03
Station #04
You must uncheck this box to enable the check boxes for individual stations.
Allow all users access to every USB port


Remote Administration Console
File Action View Help
Settings
Local Settings
X350 (3-head) PCI Display Card
Station #02
Station #03
Station #04
Information & Settings
USB-Device Assignment(s)
Keyboards and Mice
Audio Devices
Available USB Ports (HOST-PC), Settings
Standard OpenHCD USB Host Control
RootHub
[Port1] DeviceConnected : U
[Port2] DeviceConnected : U
[Port3] DeviceConnected : U
[Port6] DeviceConnected : U
Standard Enhanced PCI to USB Host
All Hosts
[Port6] DeviceConnected USB Mass Storage Device
1.1 Flash Disk USB Device
Volume(s): J:
Letter
Volume label
File System
Volume Size
Free Size
J:
FAT
62.31 MB
0.36 MB
Apply
Station name
Main Console
Station #02
Station #03
Station #04
Example of specific information available to help in deciding where to assign a USB attached disk.
With the “allow all users” box unchecked, you can then set individual station check boxes.
Allow all users access to every USB port





When you click on the "Apply" button, changes to the USB-Device assignments are saved. To discard changes, simply navigate to another tree item or close the console without clicking on the "Apply" button, but you will be reminded that you may wish to save the settings you made.

Note: In order view the current status of USB devices connected to the system (for example after you've added a new USB device), you must hit the "F5" key or click on "Refresh" from the drop down menu to get an updated list of USB devices.

Troubleshooting

Error message: "Station x. stopped!"

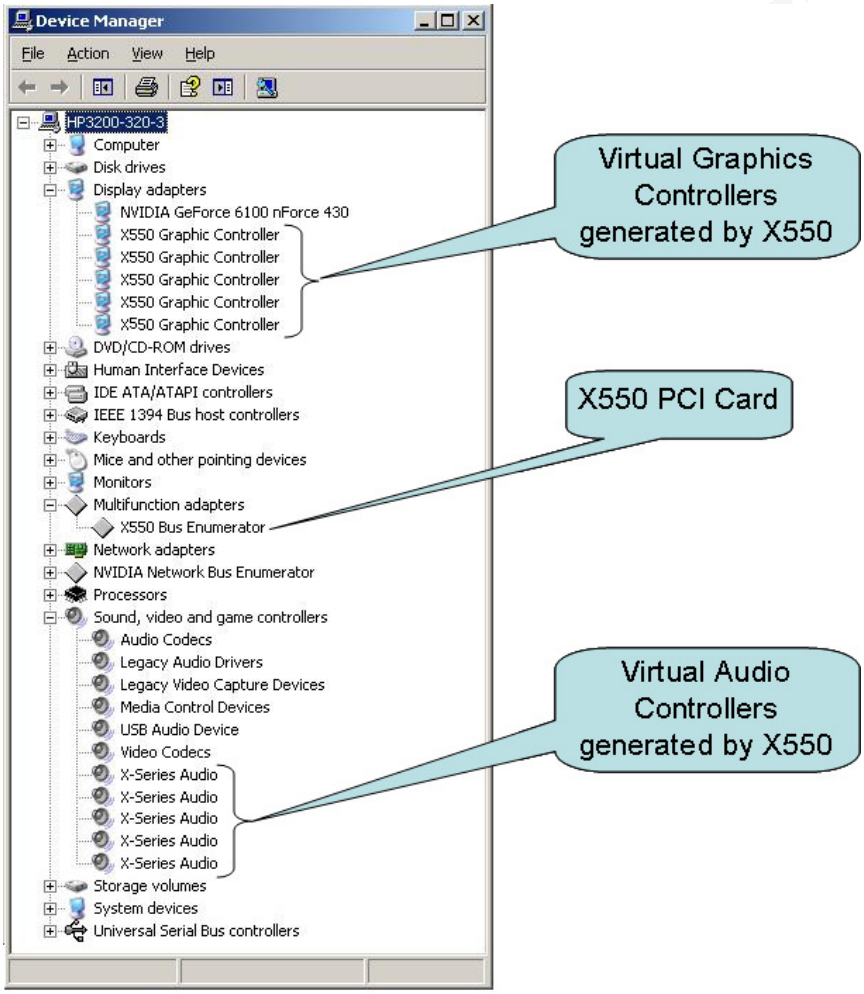
This message appears on the access device when the station is not yet logged in or has logged off.

I can't connect to the host PC

Make sure the access device's cable is connected to the host PC, the host PC is running and the X350/X550 card has been registered.

Checking that the X350/X550 PCI Card and software are installed correctly

Open the control panel and then open the "System" item. Select the "Hardware" tab and open the "Multifunction adapters" item. You can check the installation status of the drivers here.



For more troubleshooting information visit the NComputing knowledge base in the support section of the NComputing website at www.ncomputing.com

Glossary

Access device (XD2): a multi-user computing station using NComputing patented technology. It doesn't use a CPU, VGA, or main chipsets. It shares resources of the Host PC using NComputing vSpace software and a PCI card containing a system on chip (SoC).

Administrator: a person who is responsible for managing a multi-user computing environment, such as a local area network (LAN). Administrator responsibilities typically include: installing and configuring system hardware and software; establishing and managing user accounts; upgrading software; and backup and recovery tasks.

Download: the network transmission of a file from one computer system to another.

Ethernet: the most widely-installed local area network (LAN) technology - specified in a standard, IEEE 802.3.

Firewall: a set of related programs that protect the resources of a private network from users on other networks and control what outside resources local users have access to.

Gateway: a network point that acts as an entrance to another network. On the Internet, a node or stopping point can be either a gateway node or a host (end-point) node.

Host PC: a computer in which the vSpace software has been installed

Internet: a worldwide system of computer networks in which users at any one computer can, if they have permission, get information from other connected computers (and sometimes talk directly with users at other computers).

Log on: Logon is the procedure by which an entity (person, program, or system) exchanges credentials with an operating system or application in order to be allowed access to the OS or application. Almost always, a logon requires that the user have (1) a user ID and (2) a password. Often, the user ID must conform to a length requirement such as eight characters or more, and the password must contain at least one digit and not match a natural language word.

User: one who uses a computer system. Users need to identify themselves to be able to access the computer system. In order to ensure unique identities, the system administrator usually assigns each user a username associated with a defined set of computer resources.

USB: (Universal Serial Bus) is a standard designed to allow peripherals to connect and identify themselves a computer via a standardized interface socket. USB allows devices to connect and disconnect from a computer without the forcing the computer to be restarted.